Volume

#

R0413

BOOK A-413

4—679 b

INDEX DIAGRAM.

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BOOK A-413

INDEX DIAGRAM.

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6—151

Retracement and Resurvey E.Bdy.T.13 S., R.6 W.

Chains.

Survey commenced December 15, 1913, and executed with a W.and L.E.Gurley light mountain transit, No.8518, 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 meridian at Salt Lake City, found correct, and was approved by the assistant supervisor of surveys, G.D.D.Kirkpatrick, on August 1, 1913. Five-chain steel tapes and clinometers reading to 5 minutes of arc were also used.

Note: For test of instrument see T.14 S., R.5 W.

December 15, 1913: At 7h 55m a.m.l.m.t., I set off 39° 40'N.on the lat.arc; 23° 11'S.on the decl.arc; and determine a meridian with the solar at the cor.of secs.19 24,25,and 30, on E.bdy.of Tp., which is a greatly decayed cedar post properly mkd., and set 6 ins.in the ground, not witnessed. I destroy the old cor., and re-establish it in the same place as follows:

Set an iron post, 3 ft.long, 3 ins.in dia., 24 ins.in the ground, for re-established cor.of secs.19,24,25, and 30, mkd.on brass cap

T 13 S
R 6 W | R 5 W
S 24 | S 19
S 25 | S 30
1913

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.

Thence I run

South, on a retracement line bet.secs.25 and 30,

Over gently rolling valley land; through shifting sand dunes and scattering undergrowth.

40.00 No trace of the old cor.could be found after diligent search.

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

Chains. $\frac{1}{4}$ S 25 | S 30
1913

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.

This corner will hereafter refer to sec.30 only.

80.00 Find no trace of the old cor.of secs.25,30,31 and 36, after diligent search.

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, mkd.on brass cap

T 13 S
R 6 W | R 5 W
S 25 | S 30
S 36 | S 31
1913

Dig pits 18 x 18 x 12 ins.in each sec.$5\frac{1}{2}$ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, rolling valley land; sand dunes from 5 ft.to 20 ft. high, and from 3 chs.to 10 chs.apart.

Soil, fine, dry sand on the sand dunes and clay loam in between the sand dunes.

No timber.Undergrowth shadscales, rabbit brush, and juniper. A little grass.

December 15, 1913: At this cor.I set off 23° 15'S.on the decl.arc; and at 11h 55m a.m.l.m.t., I observe the sun on the meridian; the resulting lat.is 39° 39'N.

South on a retracement line bet.secs.31 and 36,

Over rolling sand dunes. Scattering undergrowth.

40.00 Find no trace of the old cor.

Set an iron post 3 ft.lohg, 1 in.in dia., 36 ins.in the ground, for $\frac{1}{4}$ sec.cor., mkd.on brass cap

$\frac{1}{4}$.S 36 | S 31
1913

Dig pits 18x18x12 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.

This corner will hereafter refer to sec.31 only.

80.00 Find no trace of the old cor. Set temp.cor.

Chains

Note:Later this cor.was set at 91.77 chs. See notes of S.bdy.of Tp.,for data.

Land;rolling sand dunes.Soil,sandy;3d rate. No timber.
Undergrowth,shadscales and greasewood.
A very little grass.

December 15,1913.

John R Stewart
U.S.Surveyor

Retracement and Resurvey of S.Boundary T.13 S.R.6 W.

December 11,1913:At 7 h 53 m a.m.,l.m.t.,I set off 39°38' N.,on the lat.arc;22°55'S.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.2,3,34,and 35, on S.bdy.of Tp.,heretofore described.

Note:For description and test of instrument see notes of T.14 S.,R.5 W.

Thence I run

East;on a retracement line bet.secs.2 and 35.

Over gently rolling valley;through low shifting sand dunes and scattering undergrowth.

40.00 No trace of the old cor.

Set an iron post,3 ft.long;1 in.in dia.,26 ins.in the ~~grou~~ ground,for ¼ sec.cor.,mkd.on brass cap

¼ S 35
S 2
1913

dig pits,18x18x12 ins.;E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.

80.00 Find no trace of the old cor.of secs.1,2,35,and 36.

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 13 S R 6 W
S 35 | S 36
S 2 | S 1
T 14 S R 6 W
1913

Dig pits,18x18x12 ins.,in each sec.5½ ft.dist.;and raise

Chains	
	a mound of earth,4 ft.base,2 ft.high, W.of cor.
	Land,rolling valley,with low shifting sand dunes from 5 ft.to 15 ft.high.
	Soil,sandy loam and sand;2nd and 3rd rate.
	Subsoil clay.
	No timber.
	Undergrowth,greasewood and shadscales.
	Good grass for grazing.
	Note:Knowing from the condition of the east bdy.that this line will not intersect E.bdy.of Tp.within limits I run
	East,on a true line bet.secs.1 and 36.
	Over nearly level valley;through scattering undergrowth and low shifting sand dunes.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for 1/4 sec.cor..mkd.on brass cap 1/4 S 36 / S 1 / 1913
	Dig pits,18x18x12 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.
80.00	No trace of the old cor.
	Note:Later on December 15,1913;The E.bdy.of Tp.was retraced and this connection made as follows:
80.60	Intersect E.bdy.of Tp., 11.77 chs.South of the temp.cor. of Tp.which in turn was 80.00 chs.South of the cor.of secs. 25,30,31,and 36.making the east bdy.(bet.secs.31 and 36. 91.77 chs.
	At the intersection
	Set an iron post,3 ft.long,3 ins.in dia.,24 ins.in the ground,for SE.cor.of T.13 S.,R.6 W.mkd.on brass cap T 13 S / R 6 W / S 36 / 1913
	Dig pits,36x36x12 ins.,N.and W.of post,8 ft.dist.;and

Chains

raise a mound of earth,5 ft.base,2½ ft.high,NW of cor.

Land,gently rolling valley;with low shifting sand dunes.

Soil,sandy ;2nd rate.

No timber.

Undergrowth,shadscales and greasewood.

Good grass for grazing.

At noon hour, sky overcast,prevents observation for latitude.

December 11,1913.

Robert E. Clark.
U.S. Transitman.

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Chains	
	Survey commenced December 15,1913:And executed with a W.and L.E.Gurley light mountain transit,No.7175 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 the least count of the verniers of the latitude and declination arcs.
	The instrument was examined tested on the meridian at Salt Lake City,found correct,and was approved by the Assistant Supervisor of Surveys,G.D.D.Kirkpatrick,on August 1,1913
	5 chain tapes and clinometers reading to 5 minutes of arc were used.
	Note:For complete test of instrument see notes of T. 14 S.,R.5 W.
	At the cor.of secs.2,3,34,and 35,on S.bdy.of Tp.,heretofore described I set off 39°38'W.,on the lat.arc;23°11' S.,on the decl.arc;and at 7 h 55 m a.m.,l.m.t.,I determine a meridian with the solar,
	Thence I run
	North,on a retracement line bet.secs.34 and 35.
	Over gently rolling valley land;through scattering undergrowth and low shifting sand dunes.
40.78	Fall 31 lks.West of the ¼ sec.cor.bet.secs.34 and 35, which is a cedar post,3 ins.square and extending 18 ins. above ground and 18 ins.in the ground,the stake is fairly well preserved considering the length of time it has been set.The ¼ is still plainly visible on it.
	I destroy this old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 34 | S 35 1913
	Dig pits,18x18x18 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
80.98	Fall 40 lks.West of the cor.of secs.26,27,34,and 35, which is a square cedar post,3 ins.square and extending 18 ins.above ground and 24 ins.underground,firmly set,

Retracement Sub.T.13 S.,R.6 W.-Continued.

Chains | and dimly but properly mkd.and not witnessed.

I destroy this cor.and re-establish it in the same place as follows:

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.2 6,27,34,and 35,mkd.on brass cap

T 13 S R 6 W
S 27 | S 26
S 34 | S 35
1913

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.

The course of the south half of this mile is therefore N.0°27'E.,40.78 chs.and the north half is N.0°08'E.,40.20 chs.

Land,rolling valley;low sand dunes from 5 ft.to 10 ft.high.

Soil,sandy loam and pure fine sand;2nd and 3rd rate.

Subsoil,clay .

No timber.

Undergrowth,shadscales and greasewood.

North,on a retracement line bet.secs.26 and 27.

40.00 No trace of the old cor.

Set temp.¼ sec.cor.

80.20 Fall 40 lks.West of the cor.of secs.22,23,26,and 27,which is a greatly decayed cedar post,dimly mkd.and not witnessed

I destroy the old cor.and re-established it in the same place as follows:

Set an iron post,3 ft.long,2 in.in the dia.,24 ins.in the ground,for re-established cor.of secs.22,23,26,and 27, mkd.on brass cap

T 13 S R 6 W
S 22 | S 23
S 27 | S 26
1913

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.

Note:For re-survey of this line see page 10.

Chains

December 15,1913:At the noon hour the sky is overcast and solar observations are impossible.

East on a retracement line bet.secs.23 and 26.

40.00 Find no trace of the $\frac{1}{4}$ sec.cor.

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

80.00 Intersect the cor.of secs.23,24,25,and 26,which is a cedar post,3 ins.square and extending 2 ft.above ground, properly mkd.badly decayed under ground.

I destroy the old cor.and re-establish it in the same place as follows:

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

T 13 S R 6 W
S 23 | S 24
S 26 | S 25
1913

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.

Note:For re-survey of this line see page 11 this book.

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

40.00 Fall 6 lks.S.of the remains of stick of wood but it is so badly decayed that I cannot identify it as the $\frac{1}{4}$ sec.cor.

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

79.80 Intersect E.bdy.of Tp.,at the closing cor.of secs.24 and 25 which is a cedar post,3 ins.square and extending 18 ins. out of the ground,properly mkd.and in fairly good state of preservation,10.56 chs.south of the cor.of secs.19,and 30,on east bdy.of Tp.,heretofore described .

I destroy the old closing cor.of secs.24 and 25,and re-establish it in the same place as follows:

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the

Retracement Sub.T.13 S.,R.6 West.-Continued.

Chains ground,for closing cor.of secs.24 and 25.mkd.on brass cap

T 13 S
R 6 W | R 5 W
S 19
S 24 C
S 30
S 25 C
1913

Dig pits,24x18x12 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.

Note:For the re-survey line bet.secs.24 and 25 see page 11, this book.

December 15,1913.

December 16,1913:At 7 h 56 m a.m.,l.m.t.,I set off 39°39'N., on the lat.arc;23°14'S.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs. 26,27,34,and 35.

Thence I run

N.0°17'E.,on a re-survey line bet.secs.26 and 27.

Note:See page 8 for retracement .

Over gently rolling land;through scattering undergrowth.

40.10 Find no trace of the old cor.

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

¼ S 27 | S 26
1913

Dig pits,18x18x12 ins.N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.

80.20 The cor.of secs.22,23,26,and 27.

Land,rolling valley.low sand dunes.

Soil,sand on the dunes and sandy loam in the swales.

Subsoil,hard clay.

No timber.

Undergrowth,sage,shadecules,and greasewood.

A little grass.

Chains

East,on a re-survey line bet.secs.23 and 26.

Note:For retracement see page 9.

Over nearly level valley;through scattering sand dunes and scattering undergrowth.

40.00 Find no trace of the $\frac{1}{4}$ sec.cor.

Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for $\frac{1}{4}$ sec.cor..mkd.on brass cap

$\frac{1}{4}$ S23

S 26
1913

Dig pits,18x18x12 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.

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

Land,nearly level,with low sand dunes from 5 ft.to 10 ft. high.

Soil,sandy loam in the swales and pure fine dry sand on the sand dunes.

Subsoil,clay,heavy and hard.

No timber.

Undergrowth, sage brush,shadscales,and greasewood.

A little grass in patches.

December 16,1913:At this cor.I set off 23°18'S.,on the decl.arc;and at 11 h 56 m a.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 39°40'N.

East,on a re-survey line bet.secs.24 and 25.

Note:For retracement see page 9.

Over gently rolling valley;through low shifting sand dunes.

Through scattering undergrowth.

39.90 Find no trace of the old cor.except the decayed wood mentioned in the notes of the retracement of this mile.

Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for re-established $\frac{1}{4}$ sec.cor..mkd.on brass cap

Re-survey, Sub.T.13 S.,R.6 W.-Continued.

Chains

$\frac{1}{4}$ S 24
S 25
1913

Dig pits,18x18x18 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.

79.80 The closing cor.of secs.24 and 25.

Land,gently rolling valley. Low sand dunes.

Soil,sand on the dunes and sandy clay loam between the sand dunes ,from 2 ft.to 4 ft.deep.

Subsoil,clay .

No timber.

Undergrowth,sage brush,shadsceles.and greasewood.

A little grass.

December 16,1913.

C. Robert E. Clark.

U.S.Transitman.

December 16,1913:At 7 h 56 m a.m.,l.m.t.,I set off 39°38' N., on the lat.arc;23°14'S.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.26,27,34,and 35.

Note:For description of instrument and test see notes of T 14 S R 5 W.

Thence I run

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

Over nearly level valley land;through dense undergrowth.

40.00 Find no trace of the old $\frac{1}{4}$ sec.cor.

Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the groung,for : $\frac{1}{4}$ sec.cor..mkd.on brass cap

$\frac{1}{4}$ S 26
S 35
1913

Dig pits,18x18x18 ins.,E.and W.of post,3 ft.dist.;and

Sub.T.13 S.,R.6 W.-Continued.

Chains	
	raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.
	Thence I run
	East,on a random line bet.secs.26 and 35 (east halves)
40.00	Set temp.cor.of secs.25,26,35,and 36.

From the cor.of secs.23,24,25,and 26,

I run

South,on a retracement line bet.secs.25 and 26.

Over rolling valley;through dense undergrowth and low sand dunes.

40.00	Find no trace of the old ¼ sec.cor.
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.,mkd.on brass cap

¼ S 26 | S 25
1913

	Dig pits,18x18x12 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 I run
	South on a true line bet.secs.25 and 26
	Over nearly level valley;through dense undergrowth and scattering sand dunes.
40.19	Intersect E.and W.line,38 lks.East of the temp.cor.
	At the intersection
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.25,26,35,and 36,mkd.on brass cap

T 13 S R 6 W
S 26 | S 25
S 35 | S 36
1913

	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,nearly level.
	Soil,sandy loam;2nd rate.about 2 ft.deep.
	Subsoil,clay .
	No timber.
	Undergrowth,sage and shadscales.
	Some grass.

Chains

West,on a true line bet.the east halves of secs.26 and 35.

Over nearly level land;through dense undergrowth.

40.38 The ¼ sec.cor.bet.secs.26 and 35.

Land nearly level.

Soil,sandy loam;2nd rate.

No timber.

Undergrowth,sage and rabbit brush and shadscales.

Good grass for grazing.

December 16,1913:At this cor.I set off 23°18'S.,on the decl.arc;and at 11 h 56 m a.m.,l.m.t.,I observe the sun on the meridian the resulting lat.is 39°39'N.

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

40.00 Set temp.¼ sec.cor.

79.82 Intersect E.bdy.of Tp.,10.88 chs.South of the cor.of secs.25,30,31,and 36.

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

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   T 13 S
 R 6 W  R 5 W
         |S 30
S 2 5 C |-----
-------- |S 31
S 36  C |
      1913
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Dig pits,24x18x12 ins.,crosswise on each line,N.and S. 3 ft.and W.of post,7 ft.dist.;and raise a mound of earth,4 ft.base,2 ft.high,W.of cor.

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

Thence I run

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

Over nearly level land;through scattering undergrowth.

Sub.T.13 S.,R.6 W.-Continued.

Chains	
	and low sand dunes from 5 ft.to 20 ft.high.
39.91	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.,mkd.on brass cap
	¼ S 25 / S 36 / 1913
	Dig pits,18x18x12 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.
79.82	The cor.of secs.25,26,35,and 36.
	Land,nearly level valley with sand dunes from 5 ft.to 20 ft. high.
	Undergrowth,shadscales and greasewood.
	Soil,sand on the dunes and clay loam between the dunes
	Subsoil,clay .
	No timber.
	No grass .

From the cor.of secs.35 and 36,on S.bdy.of Tp.,

I run

North,on a random line bet.secs.35 and 36.

40.00	Set temp.¼ sec.cor.
81.02	Intersect E.and W.line,78 lks.West of the cor.of secs. 25,26,35,and 36,x
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.35 and 36.mkd.on brass cap
	T 13 S R 6 W S 26 | S 25 S 35 C | C S 36 1913
	Dig pits,24x18x12 ins.crosswise on each line E.and W. 3 ft.and S.of post,7 ft.dist.;and raise a mound of earth,[illegible] ft. 4 ft.base,2 ft.high,S.of cor.
	Note:I destroy the marks on the cor.of secs.25,26,35,and 36, which pertain to secs.35 and 36.
	Thence I run
	South,on a true line bet.secs.35 and 36.
	Over nearly level land;through scattering undergrowth.

Chains	
	and low shifting sand dunes.
40.51	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.:mkd:on brass cap ¼ S 35 | S 36 1913 Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
81.02	The cor.of secs.1,2,35,and 36.
	Land,nearly level.
	Soil,sand on the sand dunes and clay loam in between the dunes.
	Subsoil,stiff clay.
	No timber.
	Undergrowth,sage and shadscales.
	Some grass.

December 16,1913.

John R Stewart

U.S.Surveyor

General Description.

This township is nearly level valley with low shifting sand dunes from 5 ft.to 30 ft.high.with the general westerly slope and drainage.

The soil is sand on the sand dunes and clay and sand mixed in between the sand dunes.The soil is about 3 ft. deep on the average and the subsoil is stiff clay.

The soil would produce good crops with irrigation,but would be expensive to level for irrigation.

There is no timber but a healthy growth of sage and shadscales and greasewood undergrowth is scattered over the township.

There is no water in this corner of the township ;although there is a well near the ¼ sec.cor.betsecs.28 and 33, but as there was no one to inquire of and the well was covered I could not learn how deep it was nor the quality

Sub.T.13 S.,R.6 W.-Continued.

Chains

of the water.

There are no settlers in the township.

John P. Stewart
U.S.Surveyor

Robert E. Clark
U.S.Transitman.

Boundaries of Township 13 S., R.6 W.

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	South	161.21	.....	161.21	.....	.....
South Boundary	West	160.00	.....	.....	.....	160.60
Subdivision:						
Bet.secs.34 and 35	N. 0°27'E.	40.78	40.78	.....	.31	.....
	N. 0°08'E.	40.20	40.28	.....	.09	.....
Bet.secs.26 and 27	N. 0°17'E.	80.20	80.20	.....	.40	.....
Bet.secs.23 and 26 and 24 and 25	East	159.80	.....	.....	159.80	.....
Convergency					.07	
Totals			161.26	161.21	160.67	160.60
			161.21		160.60	
Errors in lat.and dep.			0.05		0.07	

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BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "J" T.15 S., R.6 W.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

U. S. Surveyor.

TRANSITMAN.

FINAL OATH OF UNITED STATES ~~SURVEYOR~~.

I, Robert E. Clark, U. S. ~~Surveyor~~ Transitman, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 1st day of August, 1913, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of T. 8 S., R. 1 W.; T. 8 S., R. 3 W.; T. 11 S., R. 5 W.; Tps. 14 and 15 S., R. 4 W.; T. 14 S., R. 5 W.; T. 14 S., R. 6 W.; and T. 13 S., R. 6 W.

of the Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes in books B.C.D.E.F.G.H.& I as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Robert E. Clark

~~U. S. Surveyor.~~
U. S. Transitman.

Subscribed by said Robert E. Clark, and sworn to before me this 16th day of December, 1915

John B. McGauran

U. S. SURVEYOR GENERAL
for Colorado.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

, 191

The foregoing field notes of the survey of

executed by

under his special instructions dated , 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2761

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "J" T.15 S., R.6 W.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

6—2761

U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for ..... bearing date of the ..... day of ....., 191 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oath of John R. Stewart, U.S. Surveyor see book "J" T. 15 S. R. 6 W.

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

.....
U. S. Surveyor.

Subscribed by said ....., and sworn to before me this ..... day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, Dec. 2, 191 5.

The foregoing field notes of the ~~xxxxxxx~~ retracement and resurvey of the east and south boundaries, and retracement, resurvey and survey of the subdivisional lines of Township No. 13 South, Range No. 6 West, of the Salt Lake Base and Meridian, Utah

executed by John R. Stewart and Robert E. Clark under ~~xxx~~ special instructions dated August 1, 1913, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the retracement, resurveys, and surveys they describe, are hereby approved.

.....
U. S. 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.

.....
U. S. Surveyor General.

C—2701

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BOOK A-413

4—679

J.

U. S. Surveyor General's Office
MAY 14 1914
SALT LAKE CITY, UTAH

new FIELD NOTES

OF THE ~~SURVEY OF THE~~

RETRACEMENT AND RESURVEY

O F

EAST BOUNDARY OR FIRST GUIDE MERIDIAN WEST

TOWNSHIP 15 SOUTH, RANGE 6 WEST,

AND

RETRACEMENT, RESURVEY, AND SURVEY OF THE SUBDIVISION

O F

TOWNSHIP 15 SOUTH, RANGE 6 WEST

Of the SALT LAKE BASE AND *Meridian,*

In the State of U T A H

EXECUTED BY

JOHN R. STEWART

In the capacity of U. S. Surveyor, under instructions dated August 1, *1913, issued by the United States Surveyor General to govern surveys included in Group No.* 26, *which were approved by the Commissioner of the General Land Office,* August 22, *1913, pursuant to authority contained in the Act of Congress dated* ....., *191*....

Survey commenced December 10, *191*3

Survey completed December 13, *191*3.

6—151

BOOK A-413

INDEX DIAGRAM.

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

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

East bdy.T.15 S.,R.6 W.(Retracement)

Chains	
	Survey commenced December 10 1913,and executed with a W.and L.E.Gurley light mountain transit,No.8518,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 meridian at Salt Lake City,found correct,and was approved by the Assistant Supervisor of Surveys,G.D.D.Kirkpatrick,on August 1,1913.
	I examine the adjustments of the instrument and correct the level and collimation errors.
	At 7 h 53 m a.m.,l.m.t.,I set off 39°33'N.,on the lat.arc; 22°51½'S.,on the decl.arc;and determine a meridian with the solar,at the cor.of Tps.14 and 15 S.,R.5 W.,heretofore described.
	Note:For complete test of instrument see T.14 S.,R.5 W.
	Thence I run
	South,on a retracement line bet.secs.1 and 6.
40.00	Find no trace of the old cor.
80.00	Find no trace of the old cor.
	Continue South but fail to find any of the corners that I could identify absolutely until at
324.32	Fall 76 lks.West of the cor.of secs.19,24,25,and 30, which is an iron stone 16x10x8 ins.,set 10 ins.in the ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	I destroy this old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft,long,3 ins.in dia.,24 ins.in the ground;for cor.of secs.19,24,25,and 30,mkd.on brass cap

T 15 S
R 6 W R 5 W
S 24 | S 19
S 25 | S 30
1913

Chains	
	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.
	I decide to re-survey this line bet.this cor.and the

Chains	
	Tp.cor.
	The course of the re-survey line will be N.0°08'W.and the length of each line is 81.08 chs.
	Thence I run
	N.0°08'W.,on a re-survey line bet.secs.19 and 24.
	Over rolling land;through scattering undergrowth and low rolling sandy dunes.
40.54	Find no trace of the old cor.
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.,mkd.on brass cap
	¼ S 24 | S 19 1913
	Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
81.08	Find no trace of the old cor.
	Set an iron post,3 ft.long,3 ins.in dia.,24 ins.in the ground,for cor.of secs.13,18,19,and 24,mkd.on brass cap
	T 15 S R 6 W | R 5 W S 13 | S 18 S 24 | S 19 1913
	Dig pits,18x18x12 ins.,in each sec.5½ ft.dist.;and raise a mound of earth,4 ft.base,3 ft.high,W.of cor.
	Land,nearly level valley.scattering low sand dunes.
	Soil,sandy loam with some pure sand dunes.
	Subsoil,clay.
	No timber.
	Undergrowth,greasewood.
	A very little grass.
	December 10,1913:At this cor.I set off 22°54'S.,on the decl.arc;and at 11 h 53 m a.m.,l.m.t.t.,I observe the sun on the meridian,the resulting lat.is 39°30'N.

	N.0°08'W.,on a re-survey line bet.secs.13 and 18.
	Over nearly level land;through scattering undergrowth and scattering low sand dunes.

Chains

40.54 Find no trace of the old ¼ sec.cor.

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

¼ S 13 | S 18
1913

Dig pits,18x18x12 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.will hereafter refer to sec.18 only.

81.08 Find no trace of the old cor.

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

T 15 S
R 6 W | R 5 W
S 12 | S 7
S 13 | S 18
1913

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,nearly level. low sand dunes.

Soil, sandy loam;2nd rate.about 2 ft.deep.

Subsoil,stiff yellow clay .

No timber.

Undergrowth,greasewood.

N.0°08'W.,on a re-survey line bet.secs.7 and 12 .

Over nearly level land;through scattering undergrowth and scattering low sand dunes.

40.54 Find no trace of the old cor.

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

¼ S 12 | S 7
1913

Dig pits,18x18x12 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.will hereafter refer to sec.7 only.

81.08 Find no trace of the old cor.

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

T 15 S
R 6 W | R 5 W
S 1 | S 6
S 12 | S 7
1913

Chains 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,nearly level.

Soil,sandy loam;2nd rate.about 2 ft.deep.

Subsoil ,clay.

No timber.

Undergrowth,greasewood.

Some grass in patches.

N.0°08'W.,on a re-survey line bet.secs.1 and 6.

Over nearly level valley land;through scattering undergrowth and low sand dunes.

40.54 Find no trace of the old ¼ sec.cor.

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

¼ S 1 | S 6
1913

Dig pits,18x18x12 ins.,W.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.will hereafter refer to sec.6 only.

81.08 The cor.of Tps.14 and 15 S.,R.5 W.

Land, nearly level valley.low sand dunes from 5 ft .to 10 ft.high.

Soil,sandy loam;2nd rate.from 2 ft.to 4 ft.deep average

Subsoil,clay 1

A little grass.

December 10,1913.

John R Stewart
U.S.Surveyor.

BOUNDARIES OF T.15 S., R.6 W.

LATITUDES, DEPARTURES, AND CLOSING ERRORS.

Lines designated	True Bearing	Dist. chs.	Latitudes, N. chs.	Latitudes, S. chs.	Departures. E. chs.	Departures. W. chs.
West Bdy.sec.14	N. 0°07'E.	79.94	79.94	.....	.16	.....
West Bdy.sec.11	N. 0°07'E.	79.94	79.94	.....	.16	.....
West Bdy.sec. 3	N. 0°11'E.	80.42	80.42	.....	.26	.....
North Boundary	East	157.38	.....	.....	157.38	.....
East Boundary	S. 0°08'E.	236.24	.....	236.24	.55	.....
South Boundary	S.88°34'W.	158.67	.....	3.97	.....	158.62
Convergency					.10	
	T o t a l s		240.30	240.21	158.61	158.62
			240.21			158.61
Error in lat.and dep.			.09			.01

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Chains

Survey commenced December 11,1913,and executed with a W.and L.E.Gurley light mountain transit,No.8518,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 meridian at Salt Lake City,Utah,found correct,and was approved by G.D.D.Kirkpatrick,assistant Supervisor of Surveys,on August 1,1913.

5 chain tapes and clinometers reading to 5 minutes of arc were used.

Note:For complete test of instrument see notes of T.14 S., R.5 W. Mag.decl.same as given in T.14 S., R.5 W.

At 7 h 57 m a.m.,l.m.t.,I set off 39°33'N.,on the lat.arc; 22°57'S.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.2,3,34,and 35,on N.bdy.of Tp.,heretofore described.

Thence I run

South,on a retracement line bet.secs.2 and 3.

Over nearly level land;through scattering undergrowth, and low sand dunes.

40.40 Fall 13 lks.East of the ¼ sec.cor.bet.secs.2 and 3,which is a sandstone,14x9x5 ins.,set 3 ins.in the ground,mkd. and witnessed as described by the surveyor general.

I destroy the old cor.and re-establish it in the same place as follows:

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

¼ S 3 | S 2
1913

Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.

80.42 Fall 26 lks.East of the cor.of secs.2,3,10,and 11.which is a quartzite stone,12x9x7 ins.above ground,well set, well preserved, properly mkd.and witnessed

Retracement Sub.T.15 S.,R.6 W.-Continued.

Chains	
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.2,3,10,and 11,mkd.on brass cap
	T 15 S R 6 W S 3 | S 2 S 10 | S 11 1913
	Dig pits,18x18x18 ins.,in each sec.5½ ft.dist.;and raise a mound of earth,4 ft.base,2 ft.high,W.of cor.
	The course of this mile is therefore S.0°11'W.,80.42 chs.
	Land,nearly level valley;with low sand dunes from 5 ft.to 13 ft.high.
	Soil,sandy loam in between the dunes and sand on the dunes.
	Subsoil,clay.
	No timber.
	Undergrowth,greasewood.
	Some grass.
	South,on a retracement line bet.secs.10 and 11.
40.00	Find no trace of the old cor. Set temp.cor.
80.00	Find no trace of the old cor.
	Set temp.cor.
120.00	Find no trace of the old cor.
	Set temp.¼ sec.cor.
160.00	No trace of the old cor.
	Set temp.sec.cor.
200.00	Find no trace of the cor.
	Set temp.¼ sec.cor.
339.82	Fall 48 lks.East of the cor.of secs.22,23,26,and 27,which is a cedar post,3 ins.square extending 14 ins.above ground,well set,mkd.and witnessed as described by the surveyor general.
	I destroy the old cor.and re-establish it in the same

Retracement Sub.T.15 S., R.6 W.- Continued.

Chains.

place as follows:

Set an iron post, 3 ft.long, 2 ins.in dia., 24 ins.in the ground for cor.of secs.22,23,26, and 27, mkd.on brass cap

T 15S	R6 W
S22	S23
S27	S26

1913

Dig pits 18 x 18 x 12 ins.in each section/5½ ft.dist.; and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Dec.11,1913: At this cor.I set off 22°59'S.on the decl. arc; and at 11h 53m a.m.l.m.t., I observe the sun on the meridian; the resulting lat. is 39°29'N.

Note: On account of not being able to find any corners further west in this township, I decide to resurvey this line between the cor.of secs.22,23,26,and 27 and the cor.of secs.2,3,10, and 11, the course of which will be N.0° 07'E., and the length of each mile 79.94 chs. See page 13 for resurvey.

From the temp.cor.of secs.14,15,22, and 23, just established, I run

East on a retracement line bet.secs.14 and 23,

40.00 Find no trace of the ¼ sec.cor.

Set temp.¼ sec.cor.

79.69 Fall 201 lks.S.of the cor.of secs.13,14,23, and 24,which is a cedar post 3 ins.square, extending 12 ins.above ground, mkd.as described by the surveyor general;but not witnessed. I destroy the old cor., and re-establish it in the same place as follows:

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, mkd.on brass cap

T15S	R6W
S14	S13
S23	S24

1913

Retracement Sub.T.15 S., R.6 W.- Continued.

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

Note: See page11 for resurvey line.

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

40.00 No trace of the ¼ sec.cor.can be found.

Set temp.¼ sec.cor.

78.94 Fall 200 lks.S.of the cor.of secs.13,18,19, and 24, heretofore described.

December 11, 1913.

December 12, 1913: At 7h 54m a.m.l.m.t., I set off 39° 30'N.on lat.arc; 23°01½'S.on the decl.arc; and determine a meridian with the solar at the cor.of secs.13,18,19 and 24. Thence I run

S.88°34'W.on a true resurvey line bet.secs.13 and 24,

Over nearly level land; through scattering undergrowth.

39.48 Find no trace of the old ¼ sec.cor.

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

¼ S 13
S24
1913

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.

78.96 The cor.of secs.13,14,23, and 24.

Land, nearly level valley with low sand dunes from 5 to 10 ft.high.

Soil, sandy loam, 2nd rate.

Subsoil, clay.

No timber.

Undergrowth, greasewood.

Some grass in patches.

Re-survey Sub.T.15 S.,R.6 W.-Continued.

Chains	
	S.88°34'W.,on a re-survey line bet.secs.14 and 23.
	Note:See page 9 for retracement .
	Over nearly level valley;through dense undergrowth;and low sand dunes.
39.85½	No trace of the old cor.can be found.
	Set an iron post,3 ft.long,1 in.in dia.;26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 14 / S 23 1913
	Dig pits,18x18x12 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N.of cor.
79.71	The cor.of secs.14,15,22,and 23.(Note:This cor.was not actually set until later in the day but the position for it was determined.)
	Land,nearly level.
	Soil,sandy loam;2nd rate.dry and loose.
	Subsoil,clay.
	No timber.
	Undergrowth,greasewood.
	Some grass.

	From the cor.of secs.22,23,26,and 27.
	I run
	N.0°07'E.,on a re-survey line bet.secs.22 and 23.
	Note.See page 8 for retracement .
	Over nearly level land;through scattering undergrowth.
	Through low sand dunes.
39.97	Find no trace of the old cor.
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 22 | S 23 1913
	Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
79.94	Find no trace of the old cor.

Chains

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.14,15,22,and 23,mkd.on brass cap

T 15 S R 6 W
S 15 | S 14
S 22 | S 23
1913

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,nearly level valley;low sand dunes from 5 ft.to 10 ft. high,and from 10 chs.to 15.00 chs.apart.

Soil,sandy loam with patches of hard stiff clay.

Subsoil,clay.

No timber.

Undergrowth,greasewood and shadscales.

Some patches of grass.

December 12 ,1913:At this cor.I set off 23°04'S.,on the decl.arc;and at 11 h 54 m a.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 39°30'N.

N.0°07'E.,on a re-survey line bet.secs.14 and 15.

Note:See page 8 for retracement .

Over nearly level valley;through scattering undergrowth and low sand dunes.

39.97 Find no trace of the old cor.

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

¼ S 15 | S 14
1913

Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.

79.94 Find no trace of the old cor.

Set an iron post,3 ft.long,2 ins.dia.,24 ins.in the ground,for cor.of secs.10,11,14,and 15,mkd. on brass cap

T 15 S R 6 W
S 10 | S 11
S 15 | S 14
1913

Dig pits,18x18x12 ins.,in each sec.5½ ft.dist.;and

Chains.

raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land, nearly level.

Soil, sand loam, 2d rate; about 2 ft.deep.

Subsoil, clay.

No timber. Undergrowth, greasewood.

Some grass in patches.

N.0° 07'E.on resurvey line bet.secs.10 and 11.

Note: For retracement see page 8 .

Over nearly level land; through low sand dunes and scattering undergrowth.

39.97 Find no trace of the old cor.

Set an iron post 3 ft.long, 1 in.in dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., mkd.on brass cap

$\frac{1}{4}$ S 10 | S 11
1913

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.

79.94 The cor.of secs.2,3,10, and 11.

Land nearly level valley; low sand dunes from 5 ft.to 10 ft.high.

Soil, sandy loam, fine and dry, with patches of hard stiff clay.

Subsoil, clay.

No timber.

Undergrowth, greasewood.

Some grass.

December 12, 1913.

December 13, 1913: At 7h 54m a.m.l.m.t., I set off 39° 30'N.on the lat.arc; 23° 04'S.on the decl.arc; and determine a meridian with the solar at the cor.of secs.

Resurvey Sub.T.15 S., R.6 W.- Continued.

Chains.

13,14,23, and 24. Thence I run

North on retracement line bet.secs.13 and 14

40.00 No trace of old $\frac{1}{4}$ sec.cor. Set temp.$\frac{1}{4}$ sec.cor.

Thence I run with continuous measurement

North on random line bet.secs.13 and 14

80.00 Set temp.cor.of secs.11,12,13, and 14.

Thence I run

West on a random line bet.secs.11 and 14,

40.00 Find no trace of old $\frac{1}{4}$ sec.cor. Set temp.$\frac{1}{4}$ secscor.

Thence I continue west on retracement line

79.51 Intersect N.and S.line 191 lks.N.of cor.of secs.10,11,14 and 15.

Therefore I begin at the cor.of secs.10,11,14, and 15 and run

East on a resurvey line bet.secs.11 and 14,

40.00 Find no trace of the $\frac{1}{4}$ sec.cor.

Set an iron post 3 ft.long, 1 in.in dia., 26 ins.in the ground, for $\frac{1}{4}$ sec.cor., mkd.on brass cap

$\frac{1}{4}$ S 11
S 14
1913

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. Thence I run

East on a true line bet.east halves of secs.11 and 14

Over nearly level land; through scattering undergrowth and low sand dunes.

39.51 Intersect N.and S.line 191 lks.S.of the temp.cor.of secs. 11,12,13, and 14.

Set an iron post 3 ft.long, 2 ins.in dia., 24 ins.in the ground, for cor.of secs.11,12,13, and 14,mkd.on brass cap

T15S R6W
S11 | S12
S14 | S13
1913

and raise a mound of earth 4 ft.base, 2 ft.high W.of cor.

Land,nearly level.
Soil, sandy and clay loam;2d mate, about 2 ft.deep.
Subsoil,clay. No timber. Undergrowth, greasewood.

Sub. T. 15 S., R. 6 W. - Continued.

Chains	
	Some grass for grazing.
	South, on a true line bet. secs. 13 and 14.
	Over nearly level land, through scattering undergrowth and low sand dunes.
38.09	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., mkd. on brass cap ¼ S 14 | S 13 1913
	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.
78.09	The cor. of secs. 13, 14, 23 and 24.
	Land, nearly level, low sand dunes from 5 ft. to 10 ft. high and from 5 chs. to 15 chs. apart.
	Soil, sandy and clay loam; about 2 ft. deep, 2nd rate.
	Subsoil, clay, stiff and hard, yellowish color.
	No timber.
	Undergrowth, greasewood and shadscale.
	Some grass.
	Knowing that this line will be out of limits in both alinement and measurement, I run
	East, on a true line bet. secs. 12 and 13.
	Over rolling land, through greasewood undergrowth.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., mkd. on brass cap ¼ S 12 S 13 1913
	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 ¼ sec. cor. will hereafter refer to sec. 12 only.
78.79	Intersect E. bdy. of Tp. 4.91 chs. S.0°08'E. of the cor. of secs. 7, 12, 13 and 18, heretofore described.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground, for closing cor. of secs. 12 and 13,

Sub. T. 15 S., R. 6 W. - Continued.

Chains

mkd. on brass cap

T 15 S
R 6 W | R 5 W
S 7
S 12 C
C | S 18
S 13
1913

Dig pits, 24 x 18 x 12 ins., 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.

Note: I destroy the marks on the cor. of secs. 7, 12, 13 and 18 which pertain to secs. 12 and 13.

Land, nearly level.

Soil, sandy and clay loam; 2nd rate and about 2 to 3 ft. deep. Subsoil, clay, hard and stiff. No timber.

Undergrowth, greasewood. Some grass for grazing.

December 13, 1913: At this cor. I set off 23°08'S., on the decl. arc; and at 11h 54m a.m., l.m.t., I observe the sun on the meridian; the resulting lat. is 39°31'N.

North, on a true line bet. secs. 11 and 12.

Over nearly level land, through scattering undergrowth and low sand dunes.

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

¼ S 11 | S 12
1913

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. in dia., 24 ins. in the ground, for cor. of secs. 1, 2, 11 and 12, mkd. on brass cap

T 15 S | R 6 W
S 2 | S 1
S 11 | S 12
1913

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.

Chains	
	Land,nearly level.
	Soil,sandy loam from 2 to 4 ft.deep,2nd rate.
	Subsoil,stiff heavy yellow clay.
	No timber.
	Undergrowth,greasewood.
	Patches of grass.
	West,on a random line bet.secs.2 and 11.
40.00	Find no trace of the $\frac{1}{4}$ sec.cor.
	Set temp.$\frac{1}{4}$ sec.cor.
	Note:In order to establish this $\frac{1}{4}$ sec.cor.I go to the cor.of secs.2,3,10,and 11.
	Thence I run
	East,on a retracement line bet.secs.2 and 11.
	Over nearly level land;through scattering undergrowth.
40.00	Find no trace of the old cor.
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for $\frac{1}{4}$ sec.cor..mkd.on brass cap
	$\frac{1}{4}$ S 2 / S 11 / 1913
	Dig pits,18x18x12 ins.,NW and E of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,N of cor.
	Note:The connection to this cor.from the east is now as follows:
39.24	Fall 11 lks.N.of the $\frac{1}{4}$ sec.cor.
	Thence I run
	N.89°51'E.,on a true line bet.the east halves of secs.2 and 11.
	Over nearly level land;through scattering undergrowth. and low sand dunes.
39.24	The cor.of secs.1,2,11,and 12.
	Land,nearly level.
	Soil,sandy and clay loam mixed;about 2 ft.deep.
	Subsoil,clay .

Sub.T.15 S.,R.6 W.-Continued.

Chains

Undergrowth,shadscales and greasewood.

Good grass for grazing.

For reasons already explained I run

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

Over nearly level land;through low sand dunes.

Through scattering undergrowth.

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

¼ S 1
S 12
1913

Dig pits,18x16x12 ins.,E.and W.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.

78.64 Intersect E.bdy.of Tp.,6.01 chs.S.0°08'E.,of the cor. of secs.1,6,7,and 12,heretofore described.

Set an iron post,3 ft.long,2 ins.dia.,24 ins.in the ground,for closing cor.of secs.1 and 12,mkd.on brass cap

T 15 S
R 6 W R 5 W
S 6
S 1 C
S 7
S 12 C
1913

Dig pits;24x18x12 ins.,crosswise on each line N.and S. 3 ft.and W.of post,7 ft.dist.;and raise a mound of earth, 4 ft.base,2 ft.high,W.of cor.

Note:I destroy all marks on the cor.of secs.1,6,7,and 12.which pertain to secs.1 and 12.

Land,nearly level with low sand dunes average hight 6 ft.

Soil,sandy clay loam about 2 ft.deep.

Subsoil,clay .

No timber.

Undergrowth,sage and greasewood.

Sub.T.15 S.,R.6 W.-Continued.

Chains	
	Note:Knowing from connections already made that the line bet.secs.1 and 2 will not intersect N.bdy.of Tp.within limits;I run
	North,on a true line bet.secs.1 and 2 ,
	Over nearly level land.through scattering undergrowth. and low sand dunes.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for 1/4 sec.cor.,mkd.on brass cap
	1/4 S 2 | S 1 1913
	Dig pits,18x18x12 ins.N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
80.22	Intersect N.bdy.of Tp.,1.58 chs.East of the cor.of secs. 1,2,35,and 36,which is heretofore described.
	Set an iron post,3 ft.long,2 ins.in dia ,24 ins.in the ground,for closing cor.of secs.1 and 2,mkd.on brass cap
	T 14 S R 6 W S 35 | S 36 C | C S 2 | S 1 1913
	Dig pits,24x18x12 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 ft.high,S.of cor.
	Note:I destroy all marks on the cor.of secs.1,2,35,and 36, which pertain to secs.1 and 2.
	Land,nearly level.
	Soil,sandy clay loam about 2 to 3 ft.deep.dry and loose.
	Subsoil,dry,stiff clay.
	No timber.
	Undergrowth,greasewood.
	No grass.

December 13,1913.

John R. Stewart

U.S.Surveyor.

General Description.

This fractional township is in a nearly level valley with a gradual southwest slope. The surface is made uneven by a series of low sand dunes from 5 ft. to 15 ft. high and in general about 5 or 10 chs. apart.

The soil is largely sand on the dunes and mostly clay in between the dunes. It is about 2 ft. deep and with clay subsoil. It would take considerable work to level the land so it could be irrigated; but if it is leveled the sand and clay would be in about the right proportions to make good farming land. But it seems too dry to produce crops without irrigation.

There in no timber in the township.

The undergrowth is mostly scattering greasewood with some shadscales.

The grass is scattering and is a sort of salt grass.

There are no settlers in the township.

There is no water in the township.

I found no indications of mineral in the township.

John R. Stewart
U.S. Surveyor.

4—680

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, n R. Stewart, ~~and~~ and Robert E. Clark, U.S. Surveyor and U.S. Transitmen Robert D. Dalton ~~XxSxSurveyor~~, during the periods and in the capacities ted opposite our several signatures, in surveying all those parts or portions of Sub. and retracement 6 S., R. 1 W. Retracement W. bdy. and Resurvey E. and N. bdys. T. 6 S., R. 1 W. Sub. and W. y. T. 8 S., R. 1 W.; N. and S. bdys. and Sub. T. 8 S., R. 3 W.; Sub. and retracement rt of N. and S. bdys. T. 11 S., R. 5 W.; Sub. and N. S., and W. bdys. and retrace- nts T. 14 S., R. 4 W.; Sub. and S. bdy. T. 13 S., R. 6 W.; N. and W. bdys. and b. and retracements T. 14 S., R. 5 W.; Sub. and S. bdy. and retracements 14 S., R. 6 W.; and Sub. and retracements T. 15 S., R. 6 W. all of the he Salt Lake Base and Meridian, in the State of Utah ch are represented in the foregoing field notes as having been executed by him, and under his direc- ; and that said survey has been, in all respects, to the best of our knowledge and belief, well and hfully executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
Frank S. Allen	Aug. 4, 1913	Sept. 10, 1913	Chainman
William Stowell	Aug. 4, 1913	Sept. 10, 1913	Cornerman
Russell Clark	Aug 4, 1913	Sept. 22, 1913	Chainman
George Dickman	Aug 4 1913	Oct 3 1913	Cornerman
Morgan Hurst	Aug. 4, 1913	Sept 30, 1913.	Chainman
William Phelps	Aug. 4 1913	Sept. 30, 1913.	Flagman & Chainman
Al Bibbens	Aug 1 1913	Oct 3 1913	Axman
Reuloff Anderson	Oct 10, 1913	Oct. 18 1913	Flagman
Clarence Clark	Aug 4 1913	Dec 18 1913	Chainman
George L. Smith	Aug 4 1913	Dec 18 1913	Flagman & Chainman
Melvin Lewis	Sept. 12 1913	Dec 18 1913	Flagman & Chainman
Dezell Johnson	Sept 12 1913	Dec 18, 1913	Cornerman & Chainman
Ivar Anderson	Oct. 5 1913	Dec 18 1913	Cornerman
Basil McIntosh	Oct 7, 1913	Dec 18 1913	Cornerman
William Stewart	Oct 14, 1913	Dec 18 1913	Flagman & Cornerman
Frank Webb	Oct 19, 1913	Dec 18 1913	Flagman
Joseph S. Smith	Oct 1, 1913	Dec 18 1913	Axman

Subscribed and certified to before me on the dates of the final service as shown above.

John R. Stewart

U. S. Surveyor.

6—2764

FINAL OATH OF UNITED STATES SURVEYOR.

I, John R. Stewart, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 1st day of August, 1913, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of Sub. and Retracement Sub. T. 6 S., R. 1 W. Retracement W. bdy. and Re-survey East and N. bdys. T. 8 S., R. 1 W.; Sub. and W. bdy. T. 8 S., R. 1 W.; N. and S. bdys. and Sub. T. 8 S., R. 3 W.; Sub. and Retracement fract. N. and S. bdys. T. 11 S., R. 5 W.; Sub. and N., S., and W. bdys. and retracements T. 14 S., R. 4 W. Sub. and S. bdy. T. 13 S., R. 6 W. N. and W. bdys. Sub. and Retracement T. 14 S., R. 5 W. Sub. S. bdy. and Retracement T. 14 S., R. 5 W. and Sub. and retracement T. 15 S., R. 6 W. Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

John R. Stewart
~~U. S. Surveyor.~~

Subscribed by said ....., and sworn to before me this ..... day of ....., 191

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 191

The foregoing field notes of the survey of .....

executed by .....

under his special instructions dated ....., 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2764

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

.....

.....

.....

.....

.....

.....

of the .....Meridian, in the State of ..... which are represented in the foregoing field notes as having been executed by 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

U. S. Surveyor.

BOOK A-413

FINAL OATH OF UNITED STATES SURVEYOR.

I, John R. Stewart, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the first day of August, 1913, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of ret. 1st St. Par. S., ret. W. bdy., ret. res. and survey subdivision T. 6 S. R. 1 W.; ret. and res. W. bdy., ret. and survey subdivision T. 8 S. R. 1 W.; survey W. bdy., ret. res. and survey subdivision T. 8 S. R. 3 W.; ret. 2d St. Par. S., ret. and survey subdivision T. 11 S. R. 5 W.; ret. and survey W. and N. bdrs. and subdivision T. 14 S. R. 4 W.; ret. S. bdy. and survey W. bdy. and subdivision T. 14 S. R. 5 W.; survey N. and S. bdrs. and subdivision T. 14 S. R. 6 W.; ret. E. and S. bdrs. and ret. res. and survey subdivision T. 15 S. R. 6 W.; ret. and res. E. bdy. and ret. res. and survey subdivision T. 15 S. R. 6 W. of the Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes in books "A" to "J" inclusive as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

John R. Stewart
U. S. Surveyor.

Subscribed by said John R. Stewart, and sworn to before me this 29th day of March, 1915

E. G. Palfreyman
Clerk of 4th Dist. Court

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, Dec. 2, 1915.

The foregoing field notes of the ~~survey~~ retracement and resurvey of the east boundary or first guide meridian west, and retracement, resurvey, and survey of the subdivisional lines of Township 15 South, Range No. 6 West of the Salt Lake Base and Meridian, Utah

executed by John R. Stewart

under special instructions dated August 1, 1913, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the retracements, resurveys, and surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2761

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4—679

U. S. Land Office
APR 6 1914
SALT LAKE CITY, UTAH.

BOOK A-413

K.

FIELD NOTES

OF THE SURVEY OF THE

WEST BOUNDARY,

RETRACEMENT OF THE EAST AND SOUTH BOUNDARIES,

AND

RETRACEMENT, RESURVEY, AND SURVEY OF THE SUBDIVISION

OF

TOWNSHIP NO. 4 SOUTH, RANGE NO. 6 WEST

Of the SALT LAKE BASE AND *Meridian,*

In the State of UTAH

EXECUTED BY

JOHN R. STEWART, ROBERT D. DALTON, AND RALPH GENTRY

In the capacity of U. S. Surveyors and Transitman *under instructions dated* April 10 *1913*, and supplemental special instructions dated July 29, 1915 *issued by the United States Surveyor General to govern surveys included in Group No.* 20, *which were approved by the Commissioner of the General Land Office,* April 28, *1913* and August 16, 1915, respectively *pursuant to authority contained in the Act of Congress dated* ....., *191*....

Survey commenced July 7 *1913*

Survey completed December 15 *1915.*

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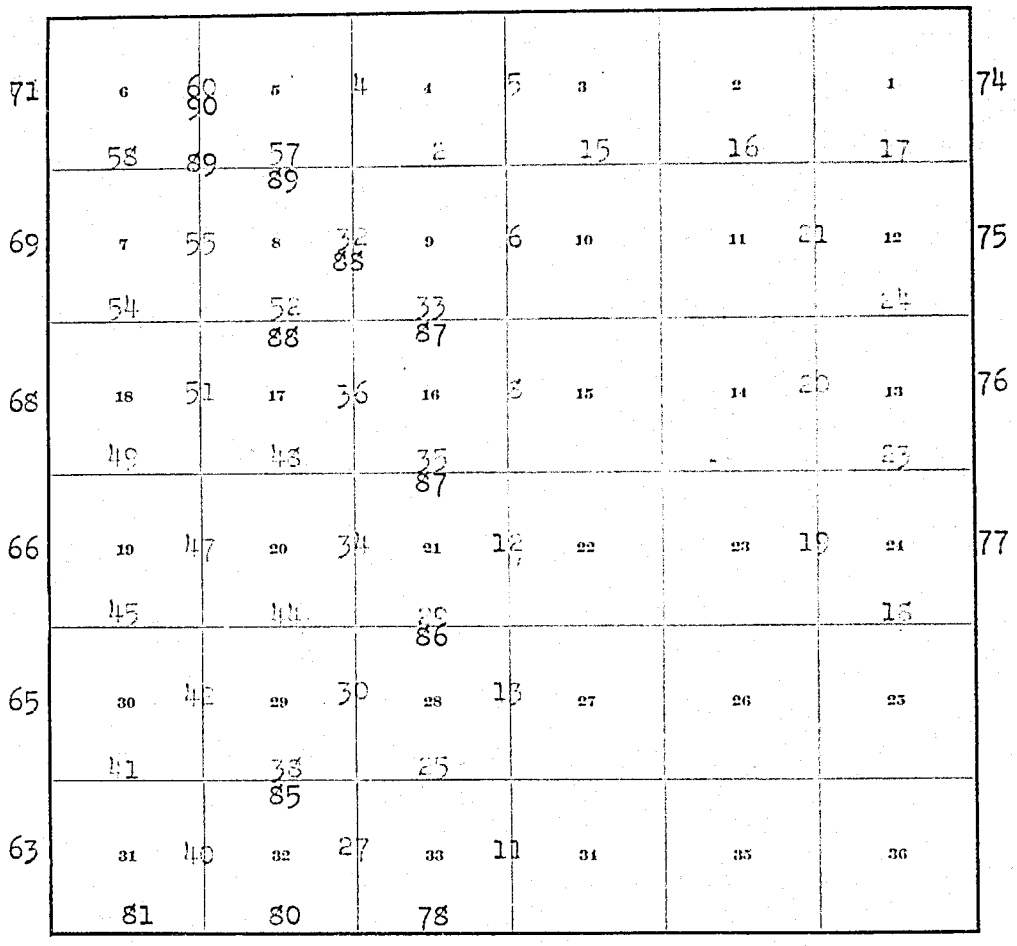
BOOK A-413

INDEX DIAGRAM.

Township 4 South, *Range* 6 West



6—151

Retracement Sub.T.4 S., R.6 W.

Survey commenced July 7, 1913, and executed with a Keuffel & Esser light mountain transit No.20578, 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 latitudes and declination arcs.

Five-chain tapes and clinometers were used. The instrument was examined, tested on the meridian at Salt Lake City, found correct, and was approved May 2, 1913 by G.D.D.Kirkpatrick, Assistant Supervisor of Surveys.

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

At the cor. of secs.3,4,9, and 10, latitude 40° 29' 32" N., longitude 112° 31' 21" W., I set off 40° 30'N. on the lat. arc; 22° 36'N. on the decl. arc; and at 4h and 5m p.m. l.m.t., I determine a meridian with the solar and mark a point thereof on a stone firmly set in the ground 5.00 chs. N. of the cor.

July 7, 1913.

July 8, 1913: At 0h 31m a.m. l.m.t. I observe Polaris at eastern elongation in accordance with the Manual, and mark a point in the line thus determined by a tack driven in a wooden plug set in the ground 5.00 chs. N. of the cor.

At 8h 0 m a.m. l.m.t. I lay off the azimuth of Polaris 1° 31' to the west, and mark the meridian thus determined by cutting a small groove in the stone already set 5.00 chs. N. of the cor., this mark falls 0.38 ins. east of the meridian established by the solar.

Retracement Sub.T.4 S., R.6 W.- Continued.

At 8h 5m a.m.l.m.t., I set off 40° 30'N.on the lat.arc; 22°31'N.on the decl.arc; and mark the meridian determined with the solar, by a cross on the stone already set 5.00 chs.N.of the cor.; this mark falls 0.43 ins. east of the meridian established by Polaris observation.

The solar apparatus defines positions for meridians respectively about 0' 20" west, and 0'23"east of the meridian established by Polaris observation;therefore I conclude that the adjustments of the instrument are satisfactory. The magnetic bearing of the meridian at 8h 30m a.m.is N.16°55'W.; the angle thus determined gives the mag.decl.16°55'E.

Note:Before commencing the regular subdivision of this township, we proceed to make retracements and resurveys where necessary in the old work adjoining the new work.

From the cor.of secs.3,4,9,and 10,which is a limestone 16x9x8 ins.set 4 ins.in the ground, loosely set, and mkd.as described by the surveyor general.

I destroy the old cor., and re-establish it in the same place as follows:Set an iron post 3 ft.long,2 ins.in dia., 24 ins.in the ground,for re-established cor.of secs.3,4,9,and 10,mkd.on brass cap

T 4 S	R 6 W
S 4	S 3
S 9	S 10

1913

And raise a mound of stone 2 ft.base,1½ ft.high W.of cor.

Thence I run:West on a retracement line bet.secs.4 and 9

Over rolling hills,through dense undergrowth Desc.

21.30 Enter scattering timber,bears N.and S.

22.00 Bottom of hollow,80 ft.below sec.cor.course N.75°E. Asc.

40.03 Fall 70 lks.N.of the ¼ sec.cor.bet.secs.4 and 9, which is a limestone 10x8x6 ins.above ground, firmly set and mkd.and witnessed as described by the surveyor general.

Chains	
	Fence,bears NE and SW.
	July 8,1913:At this cor.I set off 22°30'N.,on the decl.arc and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian the resulting lat.is 40°31'N.,which is the proper lat.nearly.
42.70	Top of ridge,2 00 ft.above hollow,bears NE and SW.
	Desc.
49.80	Foot of descent,bears NE and SW.Enter wheat field belonging to Mr.Wrathall. Leave timber and undergrowth.
58.70	Leave wheat field bears NE and SW.Enter undergrowth.
64.90	Enter wheat field ,bears N.60°E.and S.60°W.
67.20	Leave field ,bears N.60°E.and S.60°W.
67.70	Farm road,bears N.60°E.and S.60°W.
72.40	Boxelder Creek,4 lks.wide,1 ft.deep,course N.60°E.,in Bottom of Boxelder Canon,250 ft.below ridge,course N.60°E Dense willow,hawthorne,and rose bushes along creek banks.
	Asc.
73.40	Top of ascent,bears N.60°E.and S.60°W.
	Enter alfafa field,bears N.60°E.and S.60°W.
80.77	Fall 122 lks.N.of the cor.of secs.4,5,8,and 9,which is a limestone,10x9x7 ins.,above ground,firmly set,and mkd. and witnessed as described by the surveyor general.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.4,5,8,and 9,mkd.on brass cap
	T 4 S R 6 W S 5 | S 4 S 8 | S 9 1913
	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.
	The course of the east half of this mile is therefore S.89°W.,40.03 chs.and the west half is S.89°15'W.,40.74 chs.
	Land,rolling hills and level canon bottom.
	Soil,clay loam;1st and 2nd rate.
	Subsoil,clay.

Retracement Sub.T.4 S.,R.6 W.-Continued.

Chains	
	Timber,cedar.
	Undergrowth,sage brush ,willows,rose bushes,and hawthorne.
	Good grass for grazing.
	The grain crossed is being raised without irrigation and is in excellent condition;will produce about 30 bushels to the acre.
	Mountainous land,or land covered with dense undergrowth, 80.77 chs.
	North,on a retracement line bet.secs.4 and 5.
	Over level land;through alfafa field.
2.55	Fence,bears NE and SW.
	Leave field and begin ascent of ridge.
2.62	Road,bears NE and SW.
3.60	Top of spur,30 ft.above cor.,bears E.and W.
	Desc.
6.10	Wash,125 lks.wide,8 ft.deep,in bottom of hollow,25 ft. below spur,course E.
	Asc.
27.00	Top of spur,200 ft.above hollow,projects E.
	Desc.
38.75	Bottom of hollow,150 ft.below ridge,course E.
	Asc.
40.15	Fall 32 lks.E.of the ¼ sec.cor.bet.secs.4 and 5,which is a limestone,10x9x8 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for re-established ¼ sec.cor.mkd.on brass cap
	¼ S 5 | S 4 1913
	And raise a mound of stone,2 ft.base,1½ ft/high,W.of cor.
49.30	Top of spur,175 ft.above hollow,bears N.80°W.and S.80°E.
	Desc.
62.00	Bottom of hollow,22 5 ft.below spur,course S.80°E.
	Asc.

Chains	
67.00	Top of spur,150 ft.above hollow,bears E.and W.
	Desc.
77.60	Bottom of hollow,175 ft.bourse N.70°E.
	Asc.
80.30	Fall 63 lks.E.of the cor.of secs.4,5;32,and 33,on N.bdy.of Tp.,which is an iron post,3 ins.dia.,extending 12 ins.above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	The course of this mile is therefore N.0°2 7'W. 80.30 chs
	Land,mountainous except S.2.55 chs.which is rich bottom land in alfafa hay.
	Soil,on S.2.55 chs.is rich clay loam about 3 ft.deep,on gravelly subsoil,balance of mile is gravelly soil,with some rock mixed with it ;3rd rate.Subsoil,cemented gravel.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 80.30 chs.

July 8,1913.

John R Stewart
U.S.Surveyor.

July 9,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°30'N.,on the lat.arc;22°24'N.,on the decl.arc;and determine a meridian with the solar at the cor.of secs.3,4,9,and 10,

Thence I run

North,on a retracement line bet.secs.3 and 4.

Over rolling hills;through dense undergrowth.

Desc.gradually.

6.40	Swale,30 ft.below cor,course S.30°E.

Chains	
	Asc.
12.40	Road,bears N.70°W.and S.70°E.
13.00	Top of ridge,40 ft.above swale,bears E.and W.
	Desc.
14.40	Road,bears E.and W.
16.60	Enter wheat field ,bears E.and W.
29.10	Leave wheat field,bears E.and W.
37.00	Boxelder Creek,10 lks.wide,6 ins.deep,in Boxelder Canon, 200 ft.below spur,course N.70°E.
	Asc.
39.84	Fall 52 lks.E.of the ¼ sec.cor.bet.secs.3 and 4.which is a quartzite stone,10x14x8 ins.,above ground,firmly set, and mkd.and witnessed as described by the surveyor general.
42.83	Fence,bears N.80°E.and S.80°W.
43.10	Road,bears N.80°E.and S.80°W.
48.00	Top of spur,50 ft.above canon,bears E.and W.
	Desc.
56.25	Bottom of hollow,40 ft below spur,course S.70°E.
	Asc.
60.30	Fence,bears E.and W.
79.89	Fall 105 lks.E.of the cor.of secs.3,4,33,and 34,which is a quartzite stone,12x10x8 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	The course of this mile is therefore N.0°45'W. 79.89 chs.
	Land,rolling hills .
	Soil,clay loam with rocky and gravelly streaks running through it.;2nd and 3rd rate.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 67.39 chs.

From the cor.of secs.3,4,9,and 10. I run South,on a retracement line bet.secs.9 and 10.

Chains	
	Over rolling hills;through dense sage brush.
	Asc.
3.20	Top of spur,10 ft.above cor.,bears E.and W.
	Desc.
17.00	Bottom of hollow,60 ft.below spur,course E.
	Asc.
35.50	Top of spur,75 ft.above hollow,bears E.and W.
	Desc.
40.33	Fall 72 lks.W.of the ¼ sec.cor.bet.secs.9 and 10,which is a limestone,12x10x6 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	I destroy this cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for re-established ¼ sec.cor.mkd.on brass cap
	¼ S 9 | S 10 1913
	dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
40.70	Bottom of hollow,50 ft.below spur,course E.
	Asc.
51.00	Top of spur,75 ft.above hollow,projects E.
	Desc.
60.00	Bottom of hollow,60 ft.below ridge,course E.
	Asc.
69.42	Fall 144 lks.W.of the cor.of secs.9,10,15,and 16,which is an old decayed post in mound and distinct traces of old pits and mound .
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.9,10,15,and 16,mkd.on brass cap
	T 4 S R 6 W S 9 | S 10 S 16 | S 15 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	The course of the north half of this mile is therefore S.1°02'E.,40.34 chs.and the south half is S.1°25'E.39.10

Retracement Sub.T.4 S.,R.6 W.-Continued.

Chains	
-	chs.Land,rolling foot hills.
	Soil,black loam with some gravel mixed with it;2 nd rate.
	about 2 ft.deep.Subsoil,gravel and clay.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,69.44 chs.
	July 9,1913:At this cor.I set off 22°23'N.,on the decl.arc.
	and at 0 h 5 m p.m.,l.m.t,,I observe the sun on the meridian
	the resulting lat.is 40°29'N.,which is the proper lat.nearly.

	South,on a retracement line bet.secs.15 and 16.
	Over rolling hills;through dense sage brush.
	Asc.
.50	Top of spur,10 ft.above cor.,bears N.70°E.and S.70°W.
	Desc.
4.00	Bottom of hollow,50 ft.below spur,course N.70°E.
	Asc.
15.20	Top of spur,20 ft.above hollow,bears E.and W.
	Desc.
16.90	Bottom of hollow,50 ft.below ridge,course E.
	Asc.
31.40	Top of spur,100 ft.above hollow,bears E.and W.
	Desc.
39.94	Fall 168 lks.W.of the ¼ sec.cor. bet.secs.15 and 16,
	which is a sandstone,9x6x5 ins.above ground,firmly set,
	and mkd.properly.
	I destroy the old cor.and re-establish it in the same
	place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,,2 6 ins.in the
	ground,for ¼ sec.cor.,mkd.on brass cap .
	¼ S 16 | S 15
	1913
	Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and
	raise a mound of earth 3½ ft.base,1½ ft.high,W.of cor.

Chains	
63.40	Bottom of hollow,100 ft.below spur,course E.
	Asc.
66.50	Top of spur,60 ft.above hollow,bears E.and W.
	Desc.
69.60	Bottom of hollow,50 ft.below spur,course E.
	Asc.
77.00	Top of spur,70 ft.above hollow,bears E.and W.
	Desc.
78.98	Fall 336 lks.West of the cor.of secs.15,16,21,and 22, which is a stake in mound of stone,at cor.of fence, running south and east.the stake is properly mkd.$\frac{1}{4}$ on W. face.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.15,16,21,and 22,mkd.onbrass cap
	T 4 S R 6 W S 16 | S 15 S 21 | S 22 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	The course of this mile is therefore S.2°26'E.79.05 chs.
	Land,rolling hills.
	Soil,rich mountain loam with patches of gravel and rock;2nd rate.Subsoil,gravel.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 79.05 chs.
	July 9,1913.

July 10,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°28'N.,on the lat.arc;22°17'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.15,16,21,and 22.

Retracement Sub.T.4 S.,R.6 W.-Continued.

Chains Thence I run

South,on a retracement line bet.secs.21 and 22.

40.00 Find no trace of the old cor.

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

80.22 Fall 40 lks.West of the old cor.of secs.21,22,27,and 28, which is an old mound of earth containing the remains of a decayed stake under fence which bears N.and S.

I destroy the old cor.and re-establish it in the same place as follows:

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.21,22 ,27,and 28,mkd.on brass cap

T 4 S R 6 W
S 21 | S 22
S 28 | S 27
1913

Dig pits,18x18x12 ins.,in each sec.5$\frac{1}{2}$ ft.dist.;and raise a mound of earth,4 ft.base,2 ft.high,W.of cor.

Note:For re-survey of this mile see Page 12

South,on a re-tracement lin bet.secs.27 and 28.

40.00 No trace of the old $\frac{1}{4}$ sec.cor.can be found.

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

79.91 Fall 175 lks.W.of the cor.of secs.27,28,33,and 34,which is a limestone,12 x9x8 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.

I destroy this old cor.and re-establish it in the same place as follows:

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.,in the ground,for cor.of secs.27,28,33,and 34,mkd.on brass cap

T 4 S R 6 W
S 28 | S 27
S 33 | S 34
1913

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

The course of the re-survey line will be S.1°15'E.,79.92 chs.

Note:See page 14 for re-survey line bet.secs.27 and 28.

Retracement Sub.T.4 S.,R.6 W.-Continued.

Chains	
	July 10,1913:At this cor.I set off 22°16'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°2 6'N.,which is the proper lat.nearly.
	South,on retracement line bet.secs.33 and 34.
	Over rolling hills;through dense undergrowth.
	Asc.
4.90	Top of ascent,bears N.80°E.and S.80°W.
	Thence over mesa,
7.60	Fence,bears N.15°E.and S15°W.
20.00	Fall 35 lks.W.of old mound of stone,and limestone,11x12x5 ins.above ground,mkd.with a cross,and firmly set.
	I then begin at the cor.of secs.3,4,33,and 34,on S.bdy. of Tp.,which is a limestone,12x10x6 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	Thence I run
	North,on a random line bet.secs.33 and 34.
40.00	Set temp.¼ sec.cor.
61.56	Fall 14 lks.W.of the 1/16 cor.above described .
	Thence I run
	S.0°08'W.,on a true line bet.secs.33 and 34.
	Over bench land;through dense undergrowth.
	(Counting distances from the cor.of secs.27,28,33,and 34)
27.72	Wire fence,bears N.15°30'W.and S.15°30'E.
40.55	Bottom of hollow,50 ft.below cor.,course E.
	Asc.
40.78	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 34 || 1913 S 34
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
43.00	Leave mesa,bears N.80°E.and S.80°W.
	Desc.

Sub.T.4 S.,R.6 W.-Continued.

Chains	
49.00	Bottom of hollow,50 ft.below mesa,course N.65°E.
	Asc.
55.00	Top of ridge,50 ft.above hollow,bears N.75°E.and S.75°E.
	Desc.
61.00	Enter scattering cedar,bears E.and W.
65.00	Bottom of hollow,60 ft.below ridge,course N.65°E.
	Asc.
66.00	Leave timber,bears E.and W.
76.50	Hollow course E.
	Asc.
81.56	The cor.of secs.3,4,33,and 34.
	Land,level and rolling hills;
	Soil,gravelly loam;2nd and 3rd rate;
	Timber,scattering cedars.
	Undergrowth,sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,81.56 chs.
	The course of the north 20.00 chs.of this mile is S.1° 01'E.

July 10,1913.

John R Stewart

U.S.Surveyor.

July 11,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°28'N., on the lat.arc;22°09'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.15,16,21,and 22.

Thence I run

S.0°07'E.,on a re-survey line bet.secs.21 and 22.

Over rolling ~~rolling~~ hills;through dense sage brush.

	Desc.
1.00	Bottom of hollow,20 ft.below cor.,course N.70°E.
	Asc.

Chains	
6.00	Fence,bears N.70°E.and S.70°W.
	Top of ascent,bears N.70°E.and S.70°W.and S.
	Enter ploughed land .
30.20	Fence,bears E.and W.
32.20	Low spur,bears E.and W.
	Desc.
35.00	Bottom of hollow,60 ft.below spur,course SE.
	Asc.
39.50	Cor.of fence,bears E.and N.
40.11	Set an iron post,3 ft.long,1 in.in dia.,26 in.in the.,26 ground, for ¼ sec.cor. mkd.on brass cap
	¼ S 21, 1913 S 22
	Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
43.10	Top of spur,250 ft.above hollow,bears E.and W.
	Desc.
53.70	Bottom of hollow,100 ft.below ridge,course E.
	Asc.
65.70	Top of spur,150 ft.above hollow,bears E.and W.
	Desc.
80.22	The cor.of secs.21,22,27,and 28.Described on page 10.
	Land ,rolling.
	Soil,gravelly loam;2nd rate.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,80.22 chs.
	July 11,1913:At this cor.I set off 22°08'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°27'N.,which is the proper lat.nearly.

S.1°15'E.,on a resurvey line bet.secs. 27 and 28.

Re-survey Sub.T.4 S.,R.6 W.-Continued.

Chains	
	Note:For retracement of this mile see page 10.
	Over rolling hills;through dense sage brush.
	Desc.
14.30	Bottom of swale,40 ft.below cor.,course SE.
	Asc.
26.70	Top of spur,75 ft.above swale,bears E.and W.
	Desc.
39.80	Old cabin bears W.,239 lks.dist.
39.96	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 28 | 1913 | S 27
	Dig pits,18x18x12 ins.N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
76.50	Road,bears N.80°E.and S.80°W..
78.00	Dry wash,20 lks.wide,6-ft.deep,in bottom of Hickman Canon,200 ft.below spur,course N.80°E.
	Asc.
79.92	The cor.of secs.27,28,33,and 34,he[illegible]
	Note :For description of cor.see page 10.
	Land,rolling .
	Soil,gravelly loam;2nd rate.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,79.92 chs.

July 11,1913.

John R Stewart

U.S.Surveyor.

Retracement Sub.T.4 S., R.6 W.- Continued.

Chains.	
	Survey commenced July 5, 1913, and executed with a Keuffel & Esser light mountain transit No.20037, 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 meridian at Salt Lake City, found correct, and was approved by the assistant supervisor of surveys May 1, 1913.
	Note: For test of instrument see notes of
	At 8h 5m a.m.l.m.t., I set off 40° 30'N.on the lat.arc; 22° 31'N.on the decl.arc; and determine a meridian with the solar at the cor.of secs.3,4,9, and 10.
	Thence I run
	East on a retracement line bet.secs.3 and 10,
	Rolling land; through dense undergrowth. Desc.gradually.
22.50	Road in bottom of hollow, 50 ft.below cor., course S.60° E. Continue descent.
39.65	Fall 40 lks.S.of the ¼ sec.cor.bet.secs.3 and 10, which is a sandstone 20 x 10 x 6 ins.above ground, firmly set and mkd.and witnessed as described by the surveyor general.
40.00	Fence, bears N.and S. An east and west fence is 36 lks.N. of my line; and the ¼ sec.cor.is under the east and west fence.
59.85	Enter cultivated field, bears N.and S.
60.12	Cor.of fence is N.45 lks.dist. and bears E.and W. and N.
80.10	Fall 76 lks.S.of the cor.ofsecs.2,3,10, and 11, which is at fence cor., bearing E., W., and S., and is an old stake by the side of the cor.post. I therefore accept the fence corner as the cor.of secs.2.3,10, and 11.
	The course of the west half of this mile is therefore N. 89° 25'E.39.65 chs., and the east half is N.89°29'E. 40.45 chs.

Retracement Sub.T.4 S., R.6 W.- Continued.

Chains.	
	Land, rolling.
	Soil, gravelly; 2nd rate. Subsoil, gravel.
	Undergrowth, sagebrush. Good grass for grazing.
	Land covered with dense undergrowth 80.10 chs.
	July 8, 1913: At this cor. I set off 22° 30' N. on the decl. arc; and at 0 h 5m p.m. l.m.t., I observe the sun on the meridian; the resulting lat. is 40° 30' N. which is the proper lat. nearly.
	East on a retracement line bet. secs. 2 and 11,
	Over rolling land; through cultivated land.
32.53	Fence, bears N.10° 10'W. and S.10° 10'E.
	Leave cultivated land; and enter sagebrush.
32.60	Road bears N.10° W. and S.10° E.
40.11	Fall 111 lks. S. of the ¼ sec. cor. bet. secs. 2 and 11, which is a limestone 14 x 8 x 6 ins. lying in mound of stone properly mkd. I reset the stone in the mound of stone and raise a mound of stone N. of cor.
80.19	Fall 10 lks. S. of the cor. of secs. 1, 2, 11 and 12, which is a cobble stone 5 x 5 x 3 ins. in old mound of stone, properly mkd.
	I destroy the old cor., and re-establish it in the same place as follows:
	Set an iron post, 3 ft. long. 2 ins. in dia., 24 ins. in the ground, for cor. of secs. 1, 2, 11, and 12, mkd. on brass cap

T 4 S | R 6 W
S 2 | S 1
S 11 | S 12
1913

	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.
	The course of the W. half of this mile is therefore N.88° 25'E. 40.13 chs., and the east half is S.88° 33'E. 40.09 chs.

Chains	
	Land rolling .
	Soil,clay and sandy loam;2nd rate.
	No timber.
	Undergrowth,sage brush .
	Good grass for grazing.
?	Land covered with dense undergrowth,47.85 chs.
	East,on a retracement line bet.secs.1 and 12.
	Over gently rolling land;through dense sage brush.
	Desc.gently.
3.50	Wash,20 lks.wide,course N.20°E.
21.55	Wash,50 lks.wide,15 ft.deep,course N.20°E.
21.90	Road,bears N.15°W.and S.15°E.
40.00	Find no tracex of the old ¼ sec.cor.
	Set temp.¼ sec.cor.
71.30	Road,bears N.65°W.and S.65°E.
84.48	Intersect E.bdy.of Tp.,12.52 chs.S.of the cor.of secs. 1,6,7,and 12,which is a cobble stone,9x9x7 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	I decide to re-survey the line bet.the two sec.cors.
	Therefore I run
	S.81°22'W.,on a true line bet.secs.1 and 12.
	Over rolling land.through dense undergrowth.
42.72½	Set an iron post,3 ft.long,1 in.in dia.,26 ins.,in the ground,for re-established ¼ sec.cor.,mkd.on brass cap ¼ S 1 / S 12 1913
	And raise a mound of stone,2 ft.base,1 ft.high,W.of cor.
85.45	The cor.of secs.12,11,and 12.
	Land, rolling.
	Soil, clay and sandy loam; 2d rate.
	No timber, Undergrowth,sagebrush. July 8,1913.
	Land covered with dense undergrowth 85.45 chs.

Chains	
	July 10,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°27'N.,on the lat.arc;22°17'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.19,24,25,and 30,on E.bdy.of Tp.,heretofore described.
	Thence I run
	West,on a retracement line bet.secs.24 and 25.
	Over nearly level land;through dense sage brush.
12.00	Wash,100 lks.wide,10 ft.deep,course S.60°E.
13.00	Road,bears N.60°E.and S.60°W.
23.20	Road,bears N.70°E.and S.70°W.
27.00	Road,bears N.30°W.and S.30°E.
39.80	Road,bears N.5°W.and S.5°E.
39.97	Fall 21 lks.N.of the ¼ sec.cor.bet.secs.24 and 25,which is a cobble stone,10x9x9 ins.,above ground,in old md.of stone properly mkd.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.,in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 24 / S 25 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
41.50	Road,bears N.80°W.and S.80°E.
70.00	Top of descent into Hickman Canon,bears NW and SE.
80.14	Fall 42 lks.N.of the cor.of secs.23,24,25,and 26,which is a cedar post,5 ins.square,extending 2 ft.above ground, partly decayed but mkd.properly .
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.lond,2 ins.in dia.,24 ins.in the ground,for re-established cor.of secs.23,24,25,and 26, mkd.on brass cap
	T 4 S R 6 W S 2 3 | S 24 S 26 | S 25 1913
	And raise a mound of stone 2 ft.base,1½ ft.high,W.of cor.

Chains	
	The course of this mile is therefore S.89°42'W.,80.14 chs.
	Land,mountainous ,
	Soil,gravelly and rocky;2 nd and 3rd rate.about 1 ft. deep,and sandy in places.
	Subsoil,gravel.
	No timber.
	Undergrowth,sage brush.
	Some grass .
	Mountainous land,or land covered with dense undergrowth, 80.14 chs.
	July 10,1913:At this cor.I set off 28°16'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t..,I observe the sun on the meridian,the resulting lat.is 40°27'N.,which is the proper lat.nearly.
	North,on a retracement line bet.secs.23 and 24.
40.00	Find no trace of the old cor.
	Set temp.¼ sec.cor.
80.53	Fall 21 lks.E.of the cor.of secs.13,14,23,and 24,which is a limestone,8x6x4 ins.,above ground,firmly set,and mkd and witnessed as described by the surveyor general.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long 2 ins.in dia.,24 in.in the ground,for cor.of secs.13,14,23,and 24,mkd.on brass cap
	T 4 S R 6 W S 14 | S 13 S 23 | S 24 1913
	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.
	Thence I run
	S.0°09'E.,on a resurvey line bet.secs.23 and 24.
	Over rolling land;through dense sage brush.
17.40	Road,bears N.60°W.and S.80°E.

Chains	
18.50	Leave undergrowth and enter cultivated land,bearS W.60°W. and S.60°E.
40.25½	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground;for re-established ¼ sec.cor.mkd.on brass cap ¼ S 23 | S 24 1913 Dig pits,18x18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
74.00	Fence,bears E.and W.
	Leave cultivated land. Enter sage brush.
74.50	Road, bears E. and W.
80.53	The cor.of secs.23,24,25,and 26.
	Land,rolling .
	Soil,sandy loam;2nd rate.about 2 ft.deep.
	No timber.Undergrowth;sage brush.
	Some grass .
	Land covered with dense undergrowth,25.03 chs.

July 10,1913.

July 11,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°28'N.,on the lat.arc;22°09'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.13,14,23,and 24.

Thence I run

North,on a retracement line bet.secs. 13 and 14.

40.00	No trace of old cor.Set temp.¼ sec.cor.
79.93	Fall 27.1 lks.East of the cor.of secs.11,12,13,and 14, which is an old stake greatly decayed and an old mound and traces of old pits.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 in.in the ground,for cor.of secs.11,12,13,and 14,mkd.on brass cap

Chains	
	T 4 S. R 6 W S 11 | S 12 S 14 | S 13 1913
	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.
	Thence I run
	S.1°58'E.,on a true line bet.secs.13 and 14.
	Over rolling land;through dense undergrowth.
11.25	Wash,15 lks.wide,2 ft.deep,course N.55°E.
14.45	Old road,bears N.55°E.and S.55°W.
20.00	Enter scattering timber,bears E.and W.
28.00	Leave timber,bears E.and W.
39.97	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 14 | S 13 1913
	Dig pits,18x18x12 ins.,N.and S of post,3 ft.dist.;and ra raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
	Note:No trace of the old cor.could be found.
40.00	Shallow wash,50 lks.wide,6 ins.deep,course W.
57.10	Old road,bears N.15°W.and S.15°E.
60.00	A sandstone bluff 10x6x4 feet bears West 4 lks.dist.
63.30	Wash,15 lks.wide,5 ft.deep,course N.15°W.
79.94	The cor.of secs.13,14,23,and 2 4.
	Land,rolling .
	Soil,sandy loam;2nd rate.Subsoil,gravel.
	Timber,cedar,scattering.
	Undergrowth,sage brush.
	Some grass.
	Land covered with dense undergrowth,79.94 chs.
	July 11,1913:At this cor.I set off 22°08'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°28'N.,which is the proper lat.nearly.
	North,on a retracement line bet.secs.11 and 12.
	Over rolling land;through dense sage brush.
	Asc.gradually.

Chains	
9.00	Fence ,bears E.and W.
11.00	Wash,50 lks.wide,15 ft.deep,course E.
12.00	Top of low ridge,bears E.and W.
	Desc.gradually.
28.65	Fall 207 lks.East of the ¼ sec.cor.bet.secs.11 and 12, which is a limestone,12x8x6 ins.,above ground,firmly set, and mkd.and witnessed as described by the surveyor general.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,1 ins.in dia.,26 ins.in the ground,for re-established ¼ sec.cor..mkd.on brass cap
	¼ S 11 | S 12 1913
	Dig pits,18x 18x12 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,4 ft.base,2 ft.high,W.of cor.
45.00	Road,bears E.and W.
50.80	Wash,10 lks.wide,5 ft.deep,course N.15°E.
56.50	Wash,65 lks.wide,16 ft.deep,course E.
68.68	Fall 261 lks.East,of the cor.of secs.1,2,11,and 12,here-[illegible]
	The course of the south half of this mile is therefore N.4°08'W.,28.72 chs.and the north half is N.0°48'W., 40.03 chs.
	Land,rolling
	Soil,gravelly and clay loam;3rd and 2 nd rate.
	No timber.
	Undergrowth,sage brush.
	Some grass.
	Land covered with dense undergrowth,68.75 chs.

July 11,1913.

July 14,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°28'N.,on the lat.arc;21°44'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.13,14,23,and

Chains	
	2 4.
	Thence I run
	East,on a random line bet.secs.13 and 24.
40.00	Set temp.¼ sec.cor.
80.14	Entersect E.bdy.of Tp.,4.08 chs.S.0°09'E.,of the cor. of secs.13,18,19,and 2 4,heretofore described.
	Set an iron post,3 ft.long,2 ins.in dia.,12 ins.in the fr ground,on solid rock,and surrounded by mound of stone,for closing cor.of secs.13 and 24,mkd.on brass cap
	T 4 S R 6 W | R 5 W S 13 C | S 18 S 19 S 2 4C 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	Note:I destroy all marks on the cor.of secs.13,18,19,and 24.which pertain to secs.13 and 24.
	Thence I run
	West,on a true line bet.secs.13 and 2 4.
	Over rolling land;through dense undergrowth.
	Asc.
4.55	Top of spur,50 ft.above cor.,bears N.15°E.and S.15°W.
	Desc.
21.50	Bottom of hollow,200 ft.below spur,course S.15°W.
	Asc.gradually.
40.07	Set an iron post,3 ft.long,1 in.in dia.,14 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor..mkd.on brass cap
	¼ S.13 S 24 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
78.15	Road,bears N.and S.
80.14	The cor.of secs.13,14,2 3,and 24.
	Land,rolling.
	Soil,sandy and gravelly;2nd and 3rd rate.
	No timber.
	Undergrowth,sage brush.
	Good grass for grazing.

Chains

Land covered with dense undergrowth,80.14 chs.

July 14,1913:A this cor.I set off 21°42'N.,on the decl.arc; and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°28'N.,which is the proper lat.nearly.

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

40.00 Set temp.¼ sec.cor.

82.88 Intersect E.bdy.of Tp.,2.82 chs.S.0°28'E.,of the cor.of secs.7,12,13,and 18,heretofore described.

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

T 4 S
R 6 W | R 5 W
S 7
S 12 C | S 18
S 13 C 1913

Dig pits,24x18x12 ins., crosswise on each line,N.and S., 3 ft.and W.of post,7 ft.dist.;and raise a mound of earth, 4 ft.base,2 ft.high,W.of cor.

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

Thence I run

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

Over rolling land;through dense undergrowth. Asc.

1.50 Ridge,25 ft.above cor.,bears N.15°W.and S.15°E.Desc.
9.35 Hollow,100 ft.below ridge,course N.15°W. Asc.
14.15 Spur,30 ft.above hollow,bears N.15°W.and S.15°E. Desc.
22.50 Gulch,25 ft.below spur,course N.15°E.Asc.
27.10 Spur,100 ft.above gulch,bears N.and S.Desc.
35.35 Gulch,75 ft.below spur,course N.Asc.
40.30 Spur,100 ft.above gulch,bears N.15°W.and S.15°E. Desc.
41.44 Set an iron post,3 ft.long,1 in.in dia.,20 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor.,mkd.on brass cap

¼ S 12
S 13 1913

And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.

44.50 Gulch,75 ft.below spur,course N.15°W.Asc.
49.70 Spur,150 ft.above gulch,bears N.25°W.and S.25°E.Desc.
55.80 Gulch,150 ft.below spur,course N.25°W.Asc. Enter cedars.
64.00 Leave cedars,bears N.and S.
71.70 Road,bears N.10°E.and S.10°W.
71.90 Wash,20 lks.wide,18 ft.deep,course N.10°E.
82.20 Fence,bears N.and S.
82.88 The cor.of secs.11,12,13 ,and 14.

Land, rolling.
Soil,gravelly and rocky;3rd rate.
Timber,scattering cedars.
Undergrowth,sage brush.
Land covered with dense undergrowth,82.88 chs.

July 14,1913.

Robert D.Dalton
U.S.Transitman.

Chains	
	July 12,1913:At 8 h 5 m a.m.,l.m.t.,I set off 40°26'N., on the lat.arc;22°01'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.27,28,33,and 34.
	Thence I run
	West,on a retracement line bet.secs.28 and 33.
40.00	Find no trace of the old ¼ sec.cor.
76.94	Fall 121 lks.N.of the cor.of secs.28,29,32,and 33,which is a cedar post,38x3x3 ins.,set 12 ins.in the ground,mkd. and witnessed as described by the surveyor general,except that the SE bearing tree has been cut down.
	I destroy the old cor.and re-establish it in the same place as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.28,29,32,and 33,mkd.on brass cap
	T 4 S R 6 W S 29 | S 28 S 32 | S 33 1913
	From which
	A cedar,20 ins.dia.,bears N.42 °E.,72 lks. dist..mkd.T 4 S R 6 W.S 28 B T.
	A cedar,4 ins.dia.,bears S.62°30'E.,47 lks. dist..mkd.T 4 S R 6 W S 33 B T.
	A cedar,12 ins.dia.,bears S.27°W.,84 lks. dist..mkd.T 4 S R 6 W S 32 B T.
	A cedar,4 ins.dia.,bears N.42°W.,246 lks. dist.;mkd.T 4 S R 6 W S 29 B T.
	Thence I run
	N.89°06'E.,on a re-survey line bet.secs.28 and 33.
	Over mountainous land;through scattering timber and dense undergrowth.
	Desc.
10.60	Bottom of hollow,100 ft.below cor.,course SE.
	Asc.
13.90	Leave timber,bears NW and SE.
23.00	Top of ridge,150 ft.above hollow,bears NW and SE.
	Desc.

Sub.T.4 S.,R.6 W.-Continued.

Chains	
27.90	Enter heavy timber,bears NW and SE.
28.00	Bottom of hollow,100 ft.below ridge,course SE.
	Asc.
33.40	Top of spur,150 ft.above hollow,bears N.30°W.and S.30°E.
	Desc.
38.47	Set an iron post,3 ft.long,1 in.in dia.,20 ins.in the ground,on rock,and surrounded by mound of stone,for ¼ sec.cor..mkd.on brass cap
	¼ S 2 8 / S 33 1913
	From which
	A cedar,10 ins.dia.,bears N.7°30'E.,83 lks. dist..mkd.¼ S 28 B T.
	A cedar,8 ins.dia.,bears S.31° E.,43 lks. dist..mkd.¼ S 33 B T.
57.90	Leave timber,bears N.and S.
68.94	Road,bears N.60° E.and S.60°W.
70.30	Dry wash,40 lks.wide,6 ft.deep,in bottom of Hickman Canon,300 ft.below ridge,course N.60°E.
	Asc.gradually.
76.94	The cor.of secs.27,2 8,33,and 34 .
	Land,mountainous.
	Soil,gravelly loam and clay loam mixed with rock in patches.about 1 to 2 ft.deep,with subsoil of gravel and clay.
	Timber,cedar.
	Undergrowth,sage brush.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,8 76.94 chs.
	July 12,1913:At this cor.I set off 22°00'N.,on the decl. arc.and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°26'N.,which is the proper lat.nearly.

Chains	
	South,on a retracement line bet.secs.32 and 33.
	Over mountainous land;through scattering timber and dense undergrowth.
	Asc.
1.00	Top of spur,30 ft.above cor.,bears NW and SE.
	Enter heavy timber,bears NW and SE.
	Desc.
9.40	Bottom of hollow,300 ft.below ridge,course SE.
	Leave timber and enter dense sage and service berry brush bears NW and SE.
	Asc.
13.60	Top of spur,175 ft.above hollow,bears NW and SE.
	Desc.
26.40	Road,bears N.60°E.and S.60W.
27.90	Bottom of Hickman Canon,300 ft.below spur,course N.60°E.
	Asc.
38.00	Top of spur,300 ft.above canon,bears NE and SW.
	Desc.
40.00	Fall 70 lks. W.of the ¼ sec.cor.bet.secs.32 and 33, which is a greatly decayed post, the mark is still visible. I destroy the old cor.and re-establish in the same place as follows:
	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 32 | S 33 (1°13)
	Dig pits,18x18x18 ins.,N.and S.of post,3 ft.dist.;and raise a mound of earth,3½ ft.base,1½ ft.high,W.of cor.
	The course of this line is therefore S.1°E. 40.00 chs.
	Note:Knowing from lines already run that the line bet.secs 32 and 33 will not intersect S.bdy;of Tp.within limits;
	I begin at ¼ sec.cor.bet.secs.32 and 33 and Run
	South,on a true line bet.south halves of secs.32 and 33.
	Over mountainous land;through dense undergrowth.
	Asc.steep north slope of mountain.
3.90	Hollow,50 ft.above ¼ sec.cor.,course N.30°E.
	Asc.abruptly.

Chains

21.00 Leave sage brush and enter buck brush,bears N.30°E.and S. 30°W.

31.00 Top of ridge,700 ft.above hollow,bears E.and W.

Desc.

38.20-Enter service berry brush,bears E.and W.

38.90 Intersect S.bdy.of Tp.,361 lks.S.89°03'E.of the cor.of secs. 4,5,32,and 33,heretofore described.

Set an iron post,3 ft.long;2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.32 and 33;mkd.on brass cap

T 4 S | R 6 W
S 32 | S 33
CC
S 5 | S 4
T 5 S R 6 W
1913

And raise a mound of stone, 2 ft.base,1½ ft.high,N.of cor.

Note;I destroy all marks on the cor.of secs.4,5,32; and 33,which pertain to secs.32 and 33.

Land,mountainous . very steep and high.

Soil,gravelly loam;1st rate.about 1 ft.deep.Subsoil, gravel.

Timber,cedar.

Undergrowth,sage,buck,and service berry.

Good grass for grazing.

Mountainous or heavily timbered land,or land covered with dense undergrowth,78.90 chs.

July 12,1913.

July 15,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40° 26'N., on the lat.arc;21°35'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.28,29,32,and 33.

Thence I run

North,on a random line bet.secs.28 and 29.

40.00 Set temp.¼ sec.cor.

80.00 Set temp.cor.of secs.20,21,28,and 29.

Thence I run

Chains	
	East,on a random line bet.secs.21 and 2 8.
40.00	Set temp.¼ sec.cor.
75.16	Intersect N.and S.line,130 lks.S.of the cor.of secs. 21,22 ,2 7,and 28.
	Therefore I commence at the cor.of secs.21,22,27,and 28.
	Thence I run
	West,on a true line bet.secs.21 and 28.
	Over rolling hills;through dense undergrowth.
	Asc.gradually.
18.50	Wire fence,bears N.and S.
	Begin ascent of mountain,bears N.and S.
20.00	Top of spur,75 ft.above sec.cor..bears NW and SE
	Desc.
25.10	Bottom of hollow,50 ft.below ridge,course SE.
	Asc.
33.00	Top of spur,175 ft.above hollow,bears NW and SE.
	Desc.
37.58	Set an iron post,3 ft.long,1 in.in dia.,20 ins.in the ground,on rock,and surrounded by mound of stone,for ¼ sec.cor..mkd.on brass cap
	¼ S 21 / S 28 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor
37.90	Bottom of hollow,50 ft.below spur,course SE.
	Asc.
49.70	Top of spur,275 ft.above hollow,bears N.30°E.and S.30°W.
	Desc.
53.00	Bottom of hollow,175 ft.below spur,course NE.
	Asc.
61.70	Top of spur,425 ft.above hollow,bears NE and SW.
	Desc.
75.06	Bottom of hollow,200 ft.below spur,course NE.
	Asc.
75.16	Intersect temp N.and S.line,130 lks.N.of the temp.cor. of secs.20,21,2 8,and 29.
	Set (at intersection)an iron post,3 ft.long,2 ins.in dia.

Chains 24 ins.in the ground,for cor.of secs.20,21,28,and 29,

mkd.on brass cap

T 4 S R 6 W
S 20 | S 21
S 29 | S 28
1913

And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.

Land,mountainous and rolling hills.

Soil,gravelly loam rich and deep;1st and 2nd rate.

Subsoil,clay and gravel.

No timber.

Undergrowth, sage brush.

Good grass for grazing.

Mountainous land,or land covered with dense undergrowth,

75.16 chs.

July 15,1913:At this cor.I set off 2 1°33'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°2 6'N.,which is the proper lat.nearly.

South,on a true line bet.secs.2 8 and 29.

Over mountainous land;through dense undergrowth.

Desc.

.10 Bottom of hollow,course NE .

Asc.

9.60 Top of spur,300 ft.above hollow,bears E.and W.

Desc.

Leave dense and enter scattering undergrowth,bears E.and W.

16.00 Bottom of hollow,350 ft.below ridge,course E.

Asc.

25.10 Top of spur,325 ft.above hollow,bears N.80°W.and S.80°E.

Desc.

39.83 Wire fence,bears E.and W.

40.65 Set an iron post,3 ft.long,1 in.in dia.,16 ins.in the ground,on solid rock,and surrounded by mound of stone,

Chains	
	for ¼ sec.cor..mkd.on brass cap
	¼ S 29 | S 28
	1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
41.50	Top of spur,350 ft.above hollow,bears E.and W.
	Desc.
49.80	Bottom of hollow, 200ft.below spur,course E.
	Asc.
59.90	Top of spur,175 ft.above hollow,bears N.80°W.and S.80°E.
	Desc.
65.70	Bottom of hollow,75 ft.below spur,course E.
	Asc.
69.30	Top of spur,175 ft.above hollow,bears E.and W.
	Desc.
77.20	Bottom of hollow,200 ft.below ridge,course SE.
	Asc.
81.30	The cor.of secs.28,29,32,and 33.
	land,mountainous.
	Soil,gravelly loam;2nd rate with subsoil of gravel or clay.
	No timber.
	Undergrowth,sage,service berry,buck,deer,wild currant,and oak.
	Good grass for grazing.
	Mountainous land on land covered with dense undergrowth, 81.30 chs.
	July 15,1913.

July 14,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°30'N., on the lat.arc;21°44'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.9,10,15,and 16.

Thence I run

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

40.00	Set temp.¼ sec.cor.
80.00	Set temp.sec.cor.

Thence I run

Sub.T.4 S.,R.6 W.-Continued.

Chains	
	North,on a random line bet.secs.8 and 9.
40.00	Set temp.¼ sec.cor.
47.80	Fall 2 40 lks.East of the 1/16 cor.bet.secs.8 and 9, which is a limestone,12x10x10 ins.,above ground, firmly set,and mkd.and witnessed as described by the surveyor ~~ge~~ general.
	I set up over this 1/16 cor.and run
	North,on retracement line .
	Over mountainous land;through dense undergrowth.Desc.
7.50	Fence bears E.and W.
11.00	Road,bears N.70°E.and S.70°W.
13.00	Boxelder Creek,10 lks.wide,6 ins.deep,in Boxelder Canon, 300 ft.below 1/16 cor.course N.60°E.
	Asc.
13.90	Top of ascent,enter alfafa field,bears N.60°E.and S.60°W.
20.20	Fall 26 lks.E.of the cor.of secs.4,5,8,and 9,heretofore d described.
	The course of this part of the line bet.secs.8 and 9 is therefore S.0°45'E.,2 0.20 chs.
	I now return to the 1/16 cor.bet.secs.8 and 9,and run
	South ,on a true line bet.secs.8 and 9.
	Over mountainous land;through dense undergrowth.
	Asc.
9.10	Top of ridge,200 ft.above cor.,bears NE and SW.
	Desc.
13.80	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.,mkd.on brass cap
	¼ S 8 | S 9 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
14.60	Bottom of hollow,60 ft.below ridge,course NE.
	Asc.
39.80	Top of spur,275 ft.above hollow,bears E.and W.
	Desc.
47.80	Intersect Random line bet.secs.9 and 16,240 lks.W.of the temp.cor.
	At intersection I set an iron post,3 ft.long,2 ins.in dia.,

Chains	
	24 ins.in the ground,for cor.of secs.8,9,16,and 17,mkd. on brass cap
	T 4 S R 6 W S 8 | S 9 S 17 | S 16 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	Land,mountainous.
	Soil,gravelly;2nd rate.
	No timber.
	Undergrowth,sage brush and service berry.
	Good grass for grazing.
	Mountainous land ,or land covered with dense undergrowth,
	47.80 chs.
	July 14,1913:At this cor.I set off 21°42'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°29'N.,which is the proper lat.nearly.
	East. ,on a true line bet.secs.9 and 16.
	Over mountainous land,through dense undergrowth.
	Desc.
34.10	Bottom of hollow,500 ft.below sec.cor.,bourse NE.
	Asc.
40.00	Top of spur,75 ft.above hollow,bears NE and SW.
	Desc.
41.20	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.,mkd.on brass cap
	¼ S 9 S 16 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
60.00	Bottom of hollow,250 ft.below spur,course N.10°E.
	Asc.
82.40	The cor.of secs.9,10,15,and 16.
	Land,mountainous steep and high general slope to the east.
	Soil,gravelly loam about 2 ft.deep,some patches of rock.

Chains	
	Subsoil,gravel.
	No timber.
	Undergrowth,sage and service berry brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth,
	82.40 chs.
	July 14,1913.
	———
	July 16,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°27'N.,on the lat.arc;21°25'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.20,21,28,and 29.
	Thence I run
	North,bet.secs.20 and 21.
	Over mountainous land;through dense undergrowth.
	Asc.
3.10	Top of spur,50 ft.above cor.,bears NE and SW.
	Desc.
6.20	Bottom of hollow,150 ft.below spur,course S.60°E.
	Asc.
23.80	Top of spur,500 ft.above hollow,bears E.and W.
	Desc.
37.20	Bottom of hollow,400 ft.below spur,course NE.
	Asc.
39.00	Top of spur,60 ft.above hollow,bears E.and W.
	Desc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 20 | S 21 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
40.60	Bottom of hollow,60 ft.below spur,course SE.
	Asc.
69.30	Top of spur,350 ft.above hollow,bears E.and W.
	Desc.

Chains

75.00 Bottom of hollow,225 ft.below ridge,course E.

Asc.

80.00 Set an iron post,3 ft.long,2 ins.in dia.,18 ins.in the ground,on rock,and surrounded by mound of stone,for cor.o of secs.16,17,20,and 21,mkd.on brass cap

T 4 S R 6 W

S 17	S 16
S 20	S 21

1913

And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.

Land,mountainous .

Soil,mountain loam about 1 ft.deep,and subsoil,gravel.

Good grass for grazing.

No timber.

Undergrowth,oak,service berry,choke cherry,deer,and buck brush.

Mountainous land,or land covered with dense undergrowth, 80.00 chs.

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

40.00 Set temp.¼ sec.cor.

74.82 Intersect N.and S.line,7 lks.S.of the cor.of secs.15,16, 21,and 22.

Thence I run

S.89°57'W.,on a true line bet.secs.16 and 21.

Over rolling mountainous land;through dense undergrowth

Asc.

15.80 Top of spur,200 ft.above cor.,bears N.30°E.and S.30°W.

Desc.

20.20 Bottom of hollow,40 ft.below spur,course NE.

Asc.

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

¼ S 16

S 21

1913

Chains	
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
74.82	The cor.of secs.16,17,20,and 21.
	Land,mountainous .
	Soil,rich gravelly loam about 1 ft.deep;1st rate.Subsoil gravel and hard clay.
	No timber.
	Undergrowth,sage brush,and service berry.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth,74.82 chs.
	Jan.16,1913:At this cor.I set off 21°23'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian the resulting lat.is 40°28'N.,which is the proper lat.nearly.

Note:Knowing from connections already made that the line bet.secs.16 and 17 will not intersect within limits; I run

	North,on a true line bet.secs.16 and 17.
	Over mountainous land;through dense undergrowth.
	Asc.
3.20	Top of spur,150 ft.above cor.,bears E.and W.
	Desc.
14.70	Bottom of hollow,550 ft.below spur,course E.
	Asc.
27.20	Top of spur,425 ft.above hollow,bears E.and W.
	Desc.
34.40	Bottom of ravine 325 ft.below spur,course NE.
	Asc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,18 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor..mkd.on brass cap

¼ S 17 | S 16
1913

And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.

Chains	
46.00	Top of spur,175 ft.above ravine,bears NE and SW.
	Desc.
53.00	Ravine,300 ft.below spur,course NE.
	Asc.
70.80	Top of spur,160 ft.above ravine,bears N.60°E.and S.60°W.
	Desc.
79.20	Intersect E.and W.line,10.70 chs.East of the cor.of secs 8,9,16,and 17.heretofore described.

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

T 4 S R 6 W

S 8 | S 9

C C

S 17 | S 16

19 13

And raise a mound of stone,2 ft.base,1½ ft.high,S.of cor.

Land,mountainous .

Soil,gravelly loam about 6 ins.deep,2nd rate.Subsoil, gravel and rock.

No timber.

Undergrowth,sage,oak,and buck brush.

Good grass for grazing.

Mountainous land,or land covered with dense undergrowth, 79.20 chs.

July 16,1913.

John R Stewart

U.S.Surveyor .

July 17,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°26'N.,on the lat.arc;21°15'N.,on the 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

North,on a retracement line,bet.secs.31 and 32.

Over mountainous land;through dense undergrowth,

Sub.T.4 S.,R.6 W.-Continued.

Chains	
	Desc.
7.10	Ledge,10 ft.high,bears E.and W.
9.25	Foot of descent,300 ft.below sec.cor.,bears N.70°E.and S. 70°W.
10.00	Fall 7 lks.East of a limestone,14x8x6 ins.,above ground, mkd.with a cross(x).
13.30	Bottom of Hickman Canon,course N.75°E.
	Asc.
14.00	Enter mahogany,bears N.70°E.and S.70°W.
20.00	Fall 14 lks.East of the 1/16 cor.,which is a limestone, 10x8x6 ins.,above ground,firmly set,and mkd.with a cross (x) on top;in mound of stone.
	The course of this part of the line is N.0°24'W.,20 chs.

From the 1/16 cor.bet.secs.31 and 32,described above I run

N.0°02'W.,on a random line bet.secs.31 and 32.

20.00	Set temp.¼ sec.cor.
60.00	Set temp.cor.of secs.29,30,31,and 32.

Thence I run

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

40.00	Set temp.¼ sec.cor.
78.00	Fall 200 lks.N.of the cor.of secs.28,29,32,and 33.

Therefore I begin at the cor.of secs.28,29,32,and 33.

And run

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

Over mountainous land;through dense undergrowth and scattering timber.

	Asc.
2.00	Top of spur,40 ft.above cor.,bears NW and SE.
	Desc.
5.00	Enter heavy timber,bears NW and SE.
9.00	Leave timber,bears N.30°E.and S.30°W.
9.80	Bottom of hollow,150 ft.below spur,course S.

Chains	
	Asc.
19.30	Top of spur,260 ft.above hollow,bears N.20°W.and S.20°E.
	Desc.
20.50	Enter heavy timber,bears NW and SE.
31.40	Leave timber,bears NW and SE.
34.00	Bottom of hollow,400 ft.below ridge,course S.
	Asc.
39.00	Set an iron post,3 ft.long,1 in.in dia.,12 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor..mkd.on brass cap
	¼ S 29 / S 32 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor
42.20	Enter heavy timber,bears NW and SE.
49.00	Top of spur,550 ft.above hollow,bears N.30°W.and S.30° E.
	Desc.
52.50	Leave timber,bears NE and SW.
60.80	Bottom of hollow,325 ft.below spur,course SE.
	Asc.abruptly.
78.00	Point 1000 ft.above hollow,.
	Intersect Temp.line bet.secs.31 and 32,200 lks. S.of temp.cor.of secs.29,30,31,and 32.(at intersection)
	Set an iron post,3 ft.long,2 ins.in dia.,2 4 ins.in the ground,for cor.of secs.29,30,31,and 32,mkd.on brass cap
	T 4 S R 6 W / S 30 | S 29 / S 31 | S 32 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	Land,mountainous ,high and steep.
	Soil, gravelly and rocky;2 nd and 3rd rate.
	Subsoil,hard gravel and rock.
	Timber,cedar.
	Undergrowth,sage,oak,and service berry.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,78.00 chs.

Sub.T.4 S.,R.6 W.-Continued.

Chains	
	July 17,1913:At this cor.I set off 21°13'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°25'N.,which is the proper lat.nearly.
	66
	S.0°2'E.,on a true line bet.secs.31 and 32.
	Over mountainous land;through dense undergrowth.
	Asc.
10.70	Top of spur,200 ft.above cor.,bears N.60°W.and S.60°E.
	Enter heavy timber,bears N.60°W.and D.60°E.
	Desc.
19.00	Leave timber,bears E.and W.
25.50	Bottom of hollow,500 ft.below ridge,course SE.
	Asc.
30.20	Top of spur ,75 ft.above hollow,bears N.60°W.and S.60°E.
	Desc.
39.00	Set an iron post,3 ft.long,1 in.in dia.,18 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor.,mkd.on brass cap
	¼ S 31 | S 32 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
47.60	Enter scattering timber,bears E.and W.
55.50	Leave timber and enter mahogany,bears E.and W.
56.50	Bottom of hollow,1000 ft.below spur,course S.35°E.
	Asc.
57.50	Spur,50 ft.above hollow,bears N.35°W.and S.35°E.
	Desc.
58.00	The 1/16 cor.bet.secs.31 and 32,hereinbefore described.
	Land,mountainous ,high and steep.
	Soil,mountain loam and gravelly;1st and 2nd rate.
	Subsoil,gravel .
	Timber,cedar.and pinon pine.
	Undergrowth,oak,sage and mahogany.

Chains	
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,58.00 chs.
	July 17,1913.
	John R Stewart
	U.S.Surveyor.
	July 18,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°26'N.,on the lat.arc;21°05'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.29,30,31,and 32.
	Thence I run
	West,on a true line bet.secs.30 and 31.
	Note:I run this line west on true line knowing from lines already run that the line will not intersect W.bdy.of Tp.,within limits.
	Over mountainous land;through dense undergrowth and Asc.abruptly.
12.00	Enter heavy pine and aspen timber,bears N.and S.
16.50	Leave timber,bears N.and S.
33.00	Enter heavy timber,bears N.and S.
37.00	leave timber,bears N.and S.
40.00	Set an iron post,3 ft.long,1 in.in dia.,20 ins.in the ground,on solid rock,and surrounded by mound of stone, for $\frac{1}{4}$ sec.cor.mkd.on brass cap
	$\frac{1}{4}$ S 30 / S 31 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
	July 18,1913:At this cor.I set off 21°04'N.,on the decl. arc.and at 0 h 6 m p.m.kl.m.t.,I observe the sun on the meridian the resulting lat.is 40°26'N.,which is the proper lat.nearly.

Sub.T.4 S.,R.6 W.-Continued.

Chains	
43.50	Top of ridge,3000 ft.above hollow,bears NW.and SE.
	Enter scattering cedar and pinon pine timber,bears NW and SE.
	Desc.abruptly.
68.00	Sloping limestone ledge,bears N.and S.
69.00	Leave ledge.
78.10	Fall 2.85 chs.S.of the cor.of secs.25,30,31,and 36,heretofore described.

Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.30 and 31.,mkd.on brass cap

T 4 S S 25	R 6 W
	C S 30
S 36	C S 31

1913

And raise a mound of stone,2 ft.base,1½ ft.high,E.of cor.

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

Land,mountainous ,very steep and high and rocky on the west slopes.

Timber,cedar,pinon pine,aspen,and red and white pine.

Undergrowth,oak,service berry ,buck brush,and sage.

Good grass for grazing.

Mountainous or heavily timbered land,or land covered with dens unddrgrowth,78.10 chs.

July 18,1913.

Robert D. Dalton

U..S.Transitman.

July 18,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°26'N.,on the lat.arc;21°05'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.29,30,31,and 32.

Thence I run

N.0°01'W.,bet.secs.29 and 30.

Over mountainous land,through dense undergrowth.

Chains	
	Desc.abruptly.
9.00	Bottom of hollow,350 ft.below cor.,course E.
	Asc.
22.90	Top of spur,325 ft.above hollow,bears N.65°W.and S.65°E.
	Desc.
35.30	Bottom of hollow,325 ft.below ridge,course SE.
	asc.
39.00	Top of spur,300 ft.above hollow,bears N.70°W.and S.70°E.
	Desc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor.mkd.on brass cap
	¼ S 30 | S 29 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	July 18,1913:At this cor.I set off 21°04'N.,on the decl.arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°2 6'N.,which is the proper lat.nearly.
45.20	Ravine 250 ft.below spur,course E.
	Asc.
61.00	Top of spur,550 ft.above ravine bears E.and W.
	Desc.
62.50	Enter heavy timber,bears E.and W.
69 00	Leave timber,bears N.60°W.and S.60°E.
73.80	Bottom of hollow,300 ft.below spur,course S.60°E.
	Asc.
80.00	Set an iron post,3 ft.long,2 ins.in dia.,18 ins.in the ground,on solid rock,and surrounded by mound of stone, for cor.of secs.19,20,29,and 30,mkd.on brass cap
	T 4 S R 6 W S 19 | S 2 0 S 30 1913 S 29
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	Land,mountainous .
	Soil,mountain loam about 1 ft.deep ,mixed with some gravel.
	Subsoil,gravel and rock.
	Timber,red pind.
	Undergrowth,oak,barb,choke cherry,deer brush,and buck brush.

Chains	
	Good grass for grazing.
	Mountainous or heavily timbered land,or land dovered with dense undergrowth,80.00 chs.
	JUly 18,1913.
	John R. Stewart.
	U.S.Surveyor.
	July 19,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°2 7'N., on the lat.arc;20°55'N.,on the decl.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.$\frac{1}{4}$ sec.cor.
78.08	Intersect N.and S.line,138 lks.S.of the cor.of secs. 20.,21,28.,and 29.
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.20 and 29.mkd.on brass.cap
	T. 4 S | R 6 W. / S 21 / S 20C / S 28 / S 29C / 1913
	And raise a mound of stone,2 ft.base,1$\frac{1}{2}$ ft.high,W.of cor.
	Note:I destroy all marks on the cor.of secs.20,21,28,and 29 which pertain to secs.20 and 29.
	Thence I run
	West,on a true line bet.secs.20 and 29.
	Over mountainous land;through dense undergrowth.
	Desc.
.70	Bottom of hollow,20 ft.below cor.,course NE.
	Asc.
22.60	Top of ridge,650 ft.above hollow,bears N.10°W.and S.10°E.
	Desc.
31.50	Bottom of swale,350 ft.below ridge,course N.30°E.

Sub. T.4 S., R.6 W.- Continued.

Chains	
	Asc.
35.80	Top of spur, 75 ft. above hollow, bears N. and S.
	Desc.
38.08	Set an iron post 3 ft. long, 1 in. in dia., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., mkd. on brass cap $\frac{\frac{1}{4}\ S\ 20}{S\ 29}$ 1913 And raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of cor.
41.70	Swale, 75 ft. below spur, course N.
	Asc.
59.00	Top of divide ridge, 200 ft. above hollow, bears NW. and SE. Desc.
65.00	Bottom of swale, 40 ft. below ridge, course S. Asc.
74.50	Top of spur, 100 ft. above hollow, bears N. and S.
	Desc.
78.08	The cor. of secs. 19, 20, 29, and 30.
	Land, mountainous.
	Soil, mountain loam mixed with some gravel; 2d rate.
	Subsoil, gravel.
	No timber.
	Undergrowth, oak, service berry, choke cherry, and deer brush. Good grass for grazing.
	Mountainous land, or land covered with dense undergrowth 78.08 chs.
	July 19, 1913: At this cor. I set off 20° 52'N. on the decl. arc; and at 0h 6m p.m. l.m.t., I observe the sun on the meridian; the resulting lat. is 40° 27'N., which is the proper lat. nearly.
	For reasons already explained I run West on a true line bet. secs. 19 and 30,
	Over mountainous land; through dense undergrowth. Desc.
4.90	Bottom of hollow, 100 ft. below cor., course S. 30° E.
	Asc.

Sub.T.4 S., R.6 W. - Continued.

Chains.	
9.75	Top of divide ridge, 150 ft.above hollow, bears N.15° W. and S.15° E. Desc.
13.75	Enter scattering cedar timber, bears N.and S.
16.80	Bottom of hollow, 300 ft.below ridge, course N.15° W. Leave cedars and enter aspen timber, bears N.15° W. and S.15° E. Asc.
22.85	Top of spur, 300 ft.above hollow, bears N.15° E. and S. 15° W. Desc.
23.20	Leave timber,and enter dense undergrowth bears N.and S.
29.60	Leave undergrowth and enter heavy aspen timber bears N. and S.
30.60	Leave timber and enter choke cherry undergrowth, very dense and tall, bears N.30° E. and S.15° W.
32.50	Fork of Boxelder Canon,300 ft.below spur,course N.15°E. Asc.
34.00	Leave choke cherry and enter sagebrush,bears N.15°E.and S.15°W.
40.00	Set an iron post 3 ft.long, 1 in.in dia., 12 ins.in the ground,on solid rock,and surrounded by mound of stone for ¼ sec.cor., mkd.on brass cap ¼ S 19 S 30 1913 And raise a mound of stone 2 ft.base,1½ ft.high N.of cor. Asc.along south side of long spur.
65.00	Enter dense chokecherry, bears N.and S.
66.50	Leave choke cherry and enter deer brush,bears N.and S.
74.70	Leave deer brush,and enter sagebrush,bears N.and S.
77.93	Intersect W.bdy.of Tp.282 lks.S.of the cor.of secs.19,24 25, and 30,heretofore described. Set an iron post 3 ft.long, 2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.19 and 30,mkd.on brass cap T 4 S R 7 W | R 6 W S 24 | S 25 | C S 19 | C S 30 1913 And raise a mound of stone 2 ft.base,1½ ft.high E.of cor. I destroy the marks on cor.of secs.19,24,25, and 30,

Chains

which pertain to secs.19 and 30.

Land,mountainous .

Soil,mountain loam mixed with some rock and gravel;2nd rate.Subsoil,gravel.

Timber,cedar and aspen.

Undergrowth,sage,deer,and chokecherry brush.

Good grass for grazing.

Mountainous or heavily timbered land,or land covered with dense undergrowth,78.03 chs.

July 19,1913.

Robert D. Dalton

U.S.Transitman.

July 19,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°27'N., on the lat.arc;20°55'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.19,20,29 ,and 30.

Thence I run

N.0°01'W.bet.secs.19 and 20.

Over mountainous land;through dense undergrowth.

Asc.

8.50 Divide ridge,200 ft.above cor.,bears NW and SE.

Desc.

13.00 Enter heavy timber,bears NW and S.E.

33.50 Bottom of canon,400 ft.below ridge,course NE.

Asc.

Leave heavy and enter scattering timber,bears NE and SW.

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

¼ S 19 | S 20
1913

from which

An aspen,10 ins.dia.,bears S.89°E.,233 lks. dist..mkd.¼ S 20 B T.

Chains	
	An aspen,4 ins.dia.,bears S.76°W.,53 lks. dist..mkd.$\frac{1}{4}$ S 19 B T.
51.90	Top of spur,150 ft.above canon,bears E.and W.
	Leave timber,bears E.and W.
	Desc.abruptly.
80.00	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.17,18,19,and 20,mkd.on brass cap

T 4 S	R 6 W
S 18	S 17
S 19	S 20

1913

from which

A cedar, 8 ins.dia.,bears N.69°45'W.,172 lks. dist..mkd. T 4 S R 6 W S 18 B T.

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

Land,mountainous,high,steep,and rough.

Soil,rich mountain loam from 6 ins.to 1 ft.deep.

Subsoil,gravel and rock .

Timber,pine,aspen,and cedar.

Undergrowth,oak,deer,buck,chokecherry,and sage brush.

Good grass for grazing.

Mountainous or heavily timbered land,or land covered with dense undergrowth,80.00 chs.

July 19,1913:At this cor.I set off 20°52'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°28'N.,which is the proper lat.nearly.

For reasons already explained I run

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

Over mountainous land;through dense undergrowth.

Desc.abruptly.

3.20	Bottom of canon,100 ft.below cor.,course N.10°W.
	Asc.abruptly.
24.70	Top of spur,650 ft.above canon,bears NW and SE. Desc.

Sub.T.4 S., R.6 W.- Continued.

Chains

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

¼ S 17
S 20
1913

From which

A red pine 20 ins.dia., bears N.69°W.346 lks. dist., mkd.¼ S 17 B T

A red pine 5 ins.dia.bears S.84°W.310 lks. dist., mkd.¼ S 20 B T

61.00 Top of ridge,125 ft.above cor.,bears N.and S.Desc.

78.06 Intersect N.and S.line 1.14 chs.S.of the cor.of secs.16, 17,20, and 21.

Set an iron post 3 ft.long, 2 ins.in dia., 20 ins.in the ground, on rock,and surrounded by mound of stone,for closing cor.of secs.17 and 20,mkd.on brass cap

T 4 S | R 6 W
S 16
S 17 C | S 21
C
S 20.
1913

And raise a mound of stone 2 ft.base,1½ ft.high W.of cor.I destroy marks on cor.secs.16,17,20 & 21 pertaining to secs.17 and 20.

Land, mountainous.

Soil, mountain loam, 1st rate,about 1 ft.deep.

Subsoil, gravel.

Timber,scattering pine and aspen. Good grass for grazing.

Mountainous land, or land covered with dense undergrowth 78.06 chs.

July 19, 1913.

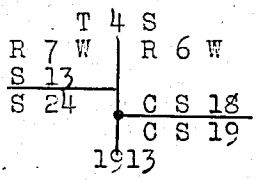
John R Stewart.
U.S.Surveyor.

July 21,1913: At 8h 6m a.m.l.m.t., I set off 40°28'N.on the lat.arc;20°32'N.on the decl.arc;and determine a meridian with the solar at the cor.of secs.17,18,19, and 20. Thence I run

West on a true line bet.secs.18 and 19,

Sub. T. 4 S., R. 6 W. - Continued.

Chains.	
	Over mountainous land; through dense undergrowth. Asc.
6.40	Top of spur, 375 ft. above cor. bears N. 10° E. and S. 10° W. Desc.
18.50	Boxelder Canon, 500 ft. below spur, course N. 20° E. Dense chokecherries in bottom of canon. Asc.
40.00	Set an iron post 3 ft. long, 1 in. in dia., 15 ins. in the ground, on solid rock, and surrounded by mound of stone 2 ft. base, 1½ ft. high, for ¼ sec. cor. mkd. on brass cap ¼ S 18 S 19 1913. And raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
	July 21, 1913: At this cor. I set off 20°30'N. on the decl. arc; and at 0h 6m p.m. l.m.t., I observe the sun on the meridian; the resulting lat. is 40°28'N., which is the proper lat. nearly.
42.50	Top of spur, 800 ft. above canon, bears N. 30° E. and S. 30° W. Desc. along north slope of ridge.
44.00	Enter scattering timber, bears N. and S.
77.75	Intersect W. bdy. of Tp. 2. 49 chs. south of the cor. of secs. 13, 18, 19, and 24, heretofore described.
	I destroy all marks on this corner that pertain to secs. 18 and 19, and
	Set an iron post 3 ft. long, 2 ins. in dia., 24 ins. in the ground, for closing cor. of secs. 18 and 19, mkd. on brass cap



From which

A red pine, 4 ins. dia., bears N. 66° E. 72 lks. dist., mkd. T 4 S R 6 W S 18 B T

A red pine 8 ins. dia., bears S 35° E. 113 lks. dist., mkd. T 4 S R 6 W S 19 B T

Chains	
	Dist.;T.4 S.,R.6 W.
	Land,mountainous,high and steep.
	Soil,mountain loam mixed with gravel;2nd rate.
	Subsoil,gravel and rock.
	Timber,pine and aspen.
	Undergrowth,oak,chokecherry,service berry,mahogany,buck, and sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 77.75 chs.
	July 21,1913.
	John R Stewart
	U.S.Surveyor .
	July 21,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°28'N., on the lat.arc;20°32'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.17,18,19,and 20
	Thence I run
	N.0°01'W.,bet.secs.17 and 18.
	Over mountainous land;through dense undergrowth.
	Desc.
13.30	Bottom of canon,150 ft.below sec.cor.,course N.10°W.
	Asc.
25.30	Point of spur,25 ft.above canon,bears E.and W.
	Desc.
28.00	Enter bottom of Boxelder Canon,bears N.30°E.and S.30°W. course of canon,N.30°E.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap ¼ S 18 | S 17 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
64.00	Leave canon,bears N.30°E.and S.30°W.
	Asc.

Chains	
69.25	Top of spur,75 ft.above canon,bears N.60°E.and S.60°W.
	Desc.
71.80	Mouth of canon,100 ft.below spur,course N.80°E.
	Asc.
80.00	Set an iron post,3 ft.long,2 ins.in dia.,2 4 ins.in the ground,for cor.of secs.7,8,17,and 18,mkd.on brass cap

T 4 S R 6 W
S 7 | S 8
S 18 | S 17
1913

And raise a mound of stone,2 ft.base,1½ ft.W.of cor.

Land,mountainous .

Soil,mountain loam mixed with some gravel and rock;2nd rate and about 1 ft.deep.

Subsoil,mostly gravel and some rock.

No timber.

Undergrowth,oak,service berry,chokecherry,buck,and sage brush.

Good grass for grazing.

Mountainous land,or land covered with dense undergrowth, 80.00 chs.

July 21,1813.

Robert D.Dalton

U.S.Transitman.

July 22,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°29'N., on the lat.arc;20°21'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.8,7,17,and 18.

Thence I run

East,on a random line bet.secs.8 and 17.

40.00	Set temp.¼ sec.cor.
67.56	Intersect N.and S.line,at the cor.of secs.8 and 9.

Thence I run

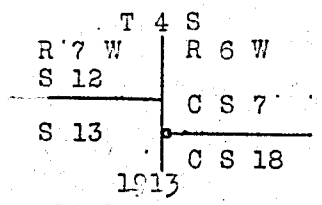
West,on a true line bet.secs.8 and 17.

Over mountainous land;through dense undergrowth.

Chains	
	Asc.abruptly:
4.40	Top of ridge,350 ft.above cor.,bears N.and S.
	Desc.
6.70	Bottom of hollow,60 ft.below ridge,course N.
	Asc.
14.00	Top of spur,150 ft.above hollow,bears N.and S.
	Desc.
23.50	Bottom of hollow,225 ft.below spur,course NW.
	Asc.
27.56	Set an iron post,3 ft.long,1 in.in dia.,2 6 ins.in the ground,for 1/4 sec.cor..mkd.on brass cap
	1/4 S S S 17 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
32.00	Top of spur,175 ft.above hollow,bears N.30°W.and S.30°E.
	Desc.
51.70	Boxelder Canon,550 ft.below spur,course NE
	Asc.
67.56	The cor.of secs.7,8,17,and 18:
	Land,mountainous.
	Soil,gravelly loam from 6 ins.to 1 ft.deep,scattering patches of rock.
	Subsoil,gravel.
	No timber.
	Undergrowth,sage,service berry,choke cherry,buck,and deer brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 67.56 chs.
	July 22,1913:At this cor.I set off 20°18'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°29'N.,which is the proper lat.nearly.

For reasons already explained I run

Chains	
	West,on a true line bet.secs.7 and 18.
	Over mountainous land;through dense undergrowth.
	Asc.
1.00	Top of spur,15 ft.above cor.,bears N.80°E.and S.80°W.
	Continue ascent.
12.40	Top of same ridge,bears NW and SE.
	Desc.
21.00	Bottom of hollow,100 ft.below ridge,course S.
	Asc.
32.50	Top of ridge,150 ft.above hollow,bears NE and SW.
	Desc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 7 / S 18 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
49.50	Bottom of hollow,75 ft.below spur,course N.
	Asc.
55.00	Top of spur,100 ft.above hollow,bears N.20°E.and S.20°W.
	Desc.
66.30	Bottom of ravine 150 ft.deep,course NE.
	Asc.
68.80	Top of spur,100 ft.above ravine,bears NE and SW.
	Desc.
72.80	Enter heavy pine and aspen timber,bears N.and S.
77.82	Intersect W.bdy.of Tp.,2.32.chs.S.of the cor.of secs. 12 and 13, heretofore described.
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.7 and 18,mkd.on brass cap



from which

An aspen,4 ins.dia.,bears N.79°E.,75 lks. dist..mkd.T 4 S R 6 W S.7 B T.

An aspen,4 ins.dia.,bears S.84°E.,92 lks.

Chains	
	mkd.T 4 S R 6 W S 18 B T.
	Land,mountainous.
	Soil,rich mountain loam about 1 ft.deep;1st and 2 nd rate
	Subsoil,gravel cemented.
	Timber,aspen and pine.
	Undergrowth,oak,sage,and service berry.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,77.82 chs.
	July 22,1913.
	John R Stewart
	U.S.Surveyor.

	July 22,1913:At 8 h 6 m a.m.,l.mt.,I set off 40°29'N., on the lat.arc;20°21'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.7,8,17,and 18.
	Thence I run
	N.0°01'W.,bet.secs.7 and 8.
	Over mountainous land;through dense undergrowth.
	Asc.
.50	Top of spur,10 ft.above cor.;bears N.80°E.and S.80°W.
	Desc.
7.10	Bottom of hollow,100 ft.below spur,course E.There is a small spring in this hollow about 5 chs.E.not seen from line.
14.75	Fence ,bears E.and W.
21.70	Top of spur,125 ft.above hollow ,bears N.60°E.and S.60°W.
	Desc.
25.65	Foot of steep descent,bears N.70°E.and S.70°W.
	Enter wheat field belonging to L. Wrathall,bears N.70°E.and S.70°W.
	Desc.gradually.
31.32	Fence,bears N.70°E.and S.70°W.
	Leave wheat field,and begin more abrupt descent,bears

Chains	
34.15	Road,bears E.and W.
36.60	Bottom of Martin's Fork ,200 ft.below spur,course N.60°E.
	Asc.
39.00	Top of spur,100 ft.above canon,bears E.and W.
	Desc.
39.90	Ravine,50 ft.below spur,course E.
	Asc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,18 ins.in the ground,on solid rock,and surrouned by mound of stone, for ¼ sec.cor..mkd.on brass cap
	¼ S 7 | S 8 1913
	from which
	A cedar,6 ins.dia.,bears S.28°E.,29 lks. dist..mkd.¼ S 8 B T. No other bearing trees within limits;raise a mound of stone 2 ft.base 1½ ft.high W.of cor.
44.00	Enter heavy timber,bears E.and W.
54.30	Top of ridge,200 ft.above hollow,bears E.and W.
	Desc.
64.00	Bottom of hollow,300 ft.below ridge,course E.
	Asc.
80.00	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for cor.of secs.5,6,7,and 8,mkd.on brass cap
	T 4 S R 6 W S 6 | S 5 S 7 | S 8 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
	Land,mountainous.
	Soil,clay and gravelly loam;2nd and 3rd rate.
	Subsoil,clay and gravel.
	Timber,cedar and pinon pine.
	Undergrowth,oak,service berry,buck,and sage brush.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,80.00 chs.
	July 22,1913:At this cor.I set off 20°18'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°30'N.,which is the proper lat.nearly.

Chains	
	From the cor.of secs.4,5,8,and 9,~~heretofore described~~
	I run
	West,on a retracement line bet.secs.5 and 8.
	Over level land in alfafa field.
3.29	Fence,bears NE and SW.
	Leave alfafa field and enter dense undergrowth,bears NE and SW.
	Asc.
3.35	Irrigation ditch,15 lks.wide,8 ft.deep,course NE.
3.50	Road,bears NE and SW.
20.54	Fall 72 lks.N.of the 1/16 cor.bet.secs.5 and 8,which is a volcanic stone,12x6x6 ins.,above ground,firmly set, and mkd.and witnessed as described.by the surveyor general.
	The course of this line is therefore S.87°56'W. 20.54 chs
	Thence I run
	West,on a random line bet.secs.5 and 8.
20.00	Set temp.¼ sec.cor.
47.68	Intersect N.and S.line,12.70 chs.South,of the cor.of secs. 5,6,7,and 8,here[illegible]
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for closing cor.of secs.5 and 8,mkd.on brass cap

T 4 S | R 6 W
S 6 | C S 5
S 7 | C S 8
1913 S 8

	And raise a mound of stone,2 ft.base,1½ ft.high,E.of cor.
	Note:I destroy all marks on the cor.of secs.5,6,7,and 8 which pertain to secs.5 and 8.
	Thence I run
	East,,n a true line bet.secs.5 and 8.
	Over mountainous land;through dense undergrowth.
	Desc.
13.00	Bottom of canon,150 ft.below cor.,course NE.
	Asc.
33.61	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap.

Chains	
	$\frac{1}{16}$ S 5 / S 8 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor.
46.68	The 1/16 cor.already described.
	Land,mountainous.
	Soil,gravelly;3rd rate.
	No timber.
	Undergrowth,sage,oak,and serive berry brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth,
	46.68 chs.
	July 22,1913.
	Robert D. Dalton
	U.S.Transitman.
	~~xXxSxxrveyor~~
	July 23,1913: At 8 h 6 m a.m.,l.m.t.,I set off 40°30'N.,on the lat.arc;20°09'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of sections 6, and 7.
	Thence I run
	West,on on a true line bet.secs.6 and 7.
	Reasons already explained.
	Over mountainous land;through dense undergrowth and scattering timber.
	Asc.
8.20	Bottom of hollow,100 ft.below cor.,course SE.
	Asc.
12.80	Top of spur,50 ft.above hollow,bears NW and SE.
	Desc.
14.65	Enter heavy timber,bears NW and SE.
26.65	Leave heavy and enter scattering timber,bears NW and SE.
27.35	Bottom of hollow,200 ft.below spur,course S.
	Asc.

Chains	
30.00	Leave timber and enter sage brush,bears E.and W.
37.85	Top of spur,75 ft.above hollow,bears N.15°W.and S.15°E.
	Desc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,19 ins.in the ground,on solid rock,and surrounded by mound of stone, for ¼ sec.cor..mkd.on brass cap
	¼ S 6 / S 7 / 1913
	And raise a mound of stone,2 ft.base,1½ ft.high,N.of cor
40.15	Bottom of hollow,30 ft.below spur,course S.60°E.
	Asc.
48.10	Leave sage brush and enter scattering timber,bears N.and S.
48.50	Top of spur,2 00 ft.above hollow,bears N.60°W.and S.60°E.
	Desc.
51.35	Leave timber,bears N.65°W.and S.65°E.
57.70	Head of hollow,100 ft.below spur,course S.60°E.
	Asc.
63.75	Top of ridge,100 ft.above hollow,bears N.and S.
	Desc.
75.00	Bottom of hollow,100 ft.below ridge,course N.60°E.
	Asc.
77.76	Intersect W.bdy.of Tp.,2.55 chs.S.of the cor.of secs. 1 and 12,heretofore described.
	Set an iron post,3 ft.long,2 ins.in dia.,2 4 ins.in the ground,for closing cor.of secs.6 and 7,mkd.on brass cap
	T 4 S / R 7 W / R 6 W / S 1 / C S 6 / S 12 / C S 7 / 1913
	from which
	An aspen,10 ins.dia.,bears S.9°55'E.,55 lks. dist.,mkd.T 4 S R 6 W S 7 B T.
	No other trees within limits;raise a mound of stone, 2 ft.base,1½ ft.high,E.of cor.
	Land,mountainous.
	Soil,gravelly and rocky;3rd and 4th rate.

Chains	
	Timber,cedar and aspen.
	Undergrowth,sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth,
	77.76 chs.
	~~July 23,191~~
	July 2 3,1913.
	John R Stewart
	U.S.Surveyor,

	July 23,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°30'N.,on the lat.arc;20°09'N.,on the decl.arc;and determine a meridian with the sola?,at the cor.of sections 6,and 7.
	Thence I run
	N.0°01'W.,on a true line bet.secs.5 and 6.
	Note:Knowing that the line will no intersect N.bdy.of Tp.within limits;from connections already made.
	Over mountainous land;through scattering timber and dense undergrowth.
	Asc.
3.90	Top of spur,100 ft.above cor.,bears N.55°W.and S.55°E.
	Desc.
13.50	Bottom of hollow,70 ft.below spur,course S.60°E.
	Asc.
14.35	Leave undergrowth and enter heavy timber,bears E.and W.
30.00	Top of steep ascent,bears E.and W.;ascend gradually.
33.40	Leave timber and enter dense sage brush,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..mkd.on brass cap
	¼ S 6 | S 5 19 | 13
	And raise a mound of stone,2 ft.base,1½ ft.high,W.of cor.
41.85	Old road,bears N.70°E.and S.70°W.
43.50	Top of ridge,300 ft.above hollow,bears N.75° E.and S.75°

Chains	
	W.
	Desc. abruptly.
54.00	Enter scattering buck brush,bears E.and W.
66.20	Foot of ridge,bears E.and W.
68.78	Intersect N.bdy.of Tp.,13.64 chs.East of the cor.of secs.31 and 32,which is an iron post,3 ins.dia.,extending 12 ins.above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
	Note:Point for cor.falls edge of South Willow Creek where it would be impossible to establish the cor.permanently therefore at 66.20 chs.on the N.and S.Line I set the witness cor.as follows:
	Set an iron post,3 ft.long,2 ins.in dia.,24 ins.in the ground,for witness cor.to the closing cor.of secs.5 and 6, mkd.on brass cap

T 3 S R 6 W
W C
S 31 | S 32
C | C
S 6 | S 5
T 4 S R 6 W
1913

	And raise a mound of stone,2 ft.base,1½ ft.high,S.of cor.
	Note:I destroy all marks on the cor.of secs.5,6,31,and 2,mwhich pertain to Tp.4 S.,R.6 W.
	Land,mountainous.
	Soil,gravelly mixed with some rock;3rd rate.
	Timber,scattering and heavy cedars.
	Undergrowth,sage and buck brush.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,68.78 chs.

July 23,1913.

Robert D. Dalton

U.S.Transitman.

~~Ex Surveyor.~~

General Description.

This fractional township lies on the east slopes of ridges and hollows and canons breaking off from the main Granite mountain or Range which runs North and South Between Tooele and Skull Valleys. The ridges in this township are generally high and steep and in some instances rocky and ledgy. The canons and hollows are generally steep and narrow with a general easterly or northeasterly course. The soil on the north slopes is usually rich mountain loam 1st and 2 nd rate but not deep, being about 6 ins. to 1½ ft. deep, on hard gravel or rock subsoil, and occassionally clay. The south slopes and east slopes are mountain loam and clay loam but have more gravel and rock mixed with it and does not produce nearly so much vegetation as the north and west slopes do. There are a number of small springs in the township, but they do not furnish enough water even for stock in the summer time, so that the country is not considered a good stock country on that account. However there is a good growth of grass all over the township and it would be exceptionally good for cattle if water were more plentiful. Cedar timber grows plentifully on the south slopes of the ridges and there is considerable pine and aspen on the north and west slopes of the ridges.

Choke cherry, service berry, buck, deer, mahogany, and sage brush grows dense almost all over the township and is especially dense and high in the canons and on the north slopes of the ridges and hills.

No mineral was found in the township.

L. Wrathall has a desert entry in secs. 7 and 8, where she has about 40 acres under cultivation.

Robert D. Dalton
U.S. Transitman.

John R. Stewart
U.S. Surveyor.

July 23, 1913.

WEST BOUNDARY T. 4 S., R. 6 W.

Chains.	
	Survey commenced July 15, 1913, and executed with a Keuffel & Esser light mountain transit, No. 20037, 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 meridian at Salt Lake City, found correct, and was approved May 2, 1913, by G.D.D.Kirkpatrick, Assistant Supervisor of Surveys.
	Five-chain steel tapes and clinometers were also used.
	Note: For test of instrument see notes of retracement of E.bdy. of this township, in this book.
	At 2h 0m p.m. I begin at the cor. of Tps. 4 and 5 S., Rs. 6 and 7 W., heretofore described. I turn from the Meridian on S.bdy. of Tp., and run
	North, along E.bdy. of sec. 36, T. 4 S., R. 7 W.
	Descending, over mountainous land; through dense undergrowth.
1.30	Wash, 8 ft. deep, 12 lks. wide, course S.15° E. Ascend.
10.60	Top of ridge, 200 ft. above wash, bears N.30° W. and S. 30° E. Descend.
11.45	Enter aspen timber, bearing E. and W.
13.05	Leave timber, bearing E. and W.
16.10	Bottom of hollow, 100 ft. below ridge, course N.60° E. Ascend.
20.10	Top of spur, 200 ft. above hollow, bears N.60° E. and S. 60° W. Descend.
26.30	Bottom of hollow, 100 ft. below spur, course S.75° E. Ascend.
29.35	Top of spur, 75 ft. above hollow, bears N.75° W. and S. 75° E. Descend.
37.50	Bear Fork of Hickman Canon, 150 ft. below spur, course SE. Creek, 3 lks. wide, 3 ins. deep in bottom. Ascend.
38.00	Begin steep ascent bearing NW. and SE.

WEST BOUNDARY T.4 S., R.6 W.

Chains.	
40.00	Set an iron post 3 ft. long, 1 in. in dia., 19 ins. in the ground, on solid rock, and surrounded by mound of stone for ¼ sec. cor., mkd. on brass cap ¼ S 36 | S 31 1913 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 cor. will hereafter refer to sec. 36 T. 4 S. R. 7 W. only.
51.65	Top of spur, 150 ft. above Bear Fork, bears N. 80° E. and S. 80° W. Descend.
53.70	Enter scattering mahogany timber, bearing E. and W.
56.20	Bottom of hollow, 50 ft. below spur, course S. 80° W. Asc.
66.50	Top of spur, 300 ft. above hollow, bears N. 65° E. and S. 65° W. Descend.
74.40	Bottom of gulch, 50 ft. below spur, course S. 65° W. Ascend.
75.25	Enter buck brush bearing E. and W.
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, mkd. on brass cap T 4 S R 7 W | S 6 W S 25 | S 30 S 36 | S 31 1913 Raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. This corner will hereafter refer to secs. 25 and 36 T. 4 S. R. 7 W. only. See page 42 for change in markings. Land, mountainous, steep, smooth slopes. Soil, rocky and gravelly; 3d rate; subsoil gravel. Timber, aspen and mahogany. Undergrowth, sage, rabbit, and buck brush. Good grass for grazing. Mountainous or heavily timbered land, or land covered with dense undergrowth 80.00 chs. July 15, 1913.

July 16, 1913: At 8h 6m. a.m. l.m.t., I set off 40° 26' N.

WEST BOUNDARY T. 4 S., R.6 W.

Chains.	
	on the lat. arc; 21° 25'N.on the decl.arc; and determine a meridian with the solar at the cor.of secs.25, 30,31, and 36. Thence I run
	North along the E.bdy.of sec.25, T.4 S., R.7 W.
	Ascending over mountainous land;through dense undergrowth.
5.00	Top of spur, 50 ft.above cor.,bears E.and W. Descend.
15.00	Bottom of hollow,50 ft.below spur,course W. Ascend.
27.40	Top of spur,300 ft.above hollow,bears N.85° E. and S. 85° W. Descend.
40.00	Set an iron post 3 ft.long, 1 in.in dia., 26 ins.in the ground, for ¼ sec.cor.,mkd.on brass cap ¼ S 25 | S 30 1913
	Dig pits 18x18x12 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 cor.will hereafter refer to sec.25 T.4 S.R.7 W.only.
46.40	Bottom of gulch,100 ft.below spur.course W. Ascend.
50.50	Top of main ridge,50 ft.above gulch,bears N.60°E.and S. 60° W. Descend.
54.00	Head of spur,bearing E.and W. Descend.
63.00	Bottom of draw,200 ft.below spur,course E. Ascend.
79.20	Quartzite spur,175 ft.above draw,bears E.and W. Descend.
80.00	Set an iron post 3 ft.long, 3 ins.in dia., 20 ins.in the ground,on solid rock,and surrounded by mound of stone, for cor.of secs.19,24,25, and 30,mkd.on brass cap T 4 S R 7 W | R 6 W S 24 | S 19 S 25 | S 30 1913
	Raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	This corner will hereafter refer to secs.24 and 25 T.4 S. R.7 W.only. See page 46 for change in markings of cor.
	Land, mountainous.
	Soil, rocky, mixed with some rich mountain loam; 3d rate.
	No timber.
	Undergrowth, sagebrush, buck brush, and service-berry

WEST BOUNDARY T.4 S., R.6 W.

Chains.	
	brush. Good grass for grazing.
	Mountainous land 80.00 chs.
	July 16, 1913: At this cor. I set off 21° 23'N. on the decl. arc; and at 0h 6m p.m. l.m.t., observe the sun on the meridian; the resulting lat. is 40° 27'N., which is the proper lat. nearly.
	North, along E.bdy. of sec. 19, T.4 S., R.7 W.
	Over mountainous land; through dense undergrowth. Descend.
2.00	Enter scattering timber, bearing E. and W.
2.50	Enter scattering service-berry brush, bearing E. and W.
10.40	Bottom of hollow, 400 ft. below sec. cor., course N.75°E. Ascend.
10.75	Leave timber, bearing E. and W.
17.90	Top of spur, 50 ft. above hollow, bears E. and W. Descend.
25.00	Bottom of hollow, 50 ft. below spur, course N.75°E. Ascend.
31.30	Top of spur, 25 ft. above hollow, bears N.75°E. and S.75° W. Descend.
34.30	Enter scattering timber, bearing 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., mkd. on brass cap ¼ S 24 | S 19 1913 from which A pine, 9 ins. dia., bears N.33° 45'E. 185 lks. dist., marked ¼ S 19 B T No other trees within limits; raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. This cor. will hereafter refer to sec. 24, T.4 S. R.7 W. only.
47.00	Enter sagebrush, bearing E. and W.
50.50	Enter scattering pine timber, bearing E. and W.
51.00	Enter heavy aspen timber, bearing E. and W.
53.25	Right Fork of Abbots Fork of Boxelder Canon, 300 ft. below spur, course E. Ascend.
53.50	Enter chokecherry brush, bearing E. and W.

WEST BOUNDARY T.4 S., R.6 W.

Chains.
54.00 Leave chokecherry brush, bearing E.and W.

64.70 Top of ridge, 400 ft.above canon, bears N.80° E. and S.80° W. Descend.

65.60 Leave aspen timber, and enter heavy pine timber, bearing E.and W.

77.00 Leave timber, bearing E.and W.

80.00 Set an iron post 3 ft.long, 3 ins.in dia., 24 ins.in the ground, for cor.of secs.13,18,19, and 24, mkd.on brass cap.

T 4 S
R 7 W | R 6 W
S 13 | S 18
S 24 | S 19
1913

from which

A pine, 8 ins.dia., bears N.60° W. 45 lks.dist. marked T 4 S R 7 W S 13 B T

A pine, 14 ins.dia., bears S.60° W. 100 lks.dist. marked T 4 S R 7 W S 24 B T

Raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

This corner will hereafter refer to secs.13 and 24, T.4 S. R.7 W. only. See page 50 for change in markings on cor.

Land, mountainous, steep slopes.

Soil, black loam, mixed with rock and gravel; 3d rate.

Subsoil, gravel.

Timber, cedar, pine, and aspen.

Undergrowth, sagebrush, oak, chokecherry, and rabbie brush. Good grass for grazing.

Mountainous, or heavily timbered land, or land covered with dense undergrowth 80.00 chs. July 16, 1915.

July 17, 1913: At 8h 06m a.m.l.m.t., I set off 40° 28' N.on the lat.arc; 21° 15'N.on the decl.arc; and determine a meridian with the solar at the cor.of secs.13, 18,19, and 24. Thence I run

North, along E.bdy.of sec.13 T.4 S., R.7 W.

WEST BOUNDARY T. 4 S , R.6 W.

Chains.	
	Descending, over mountainous land; through dense under-growth.
9.45	Bottom of hollow, 300 ft.below cor., course N.15° E.Asc.
10.50	Enter dense aspen timber, bearing E.and W.
13.50	Bottom of White Pine Canon, course S.80° E.
	Leave aspen timber and service-berry, chokecherry, and deer brush; enter dense sagebrush,bearing E.and W.Asc.
20.60	Enter scattering service-berry brush,bearing E.and W.
34.60	Leave service-berry brush, bearing E.and W.
40.00	Top of spur,400 ft.above canon,bears N.80°W.and S.80°E.
	Set an iron post 3 ft.long, 1 in.in dia., 26 ins.in the ground, for ¼ sec.cor., mkd.on brass cap
	¼ S 13 | S 18 1913
	Raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.
	This cor.will hereafter refer to sec.13 T.4 S.R.7 W.only.
41.40	Enter scattering service-berry and deer brush,bearing E.and W.
55.00	Leave service-berry brush; enter heavuy pine timber, bearing E.and W.
64.60	Leave timber, bearing E.and W.
65.95	Old drag road. bears N.65° E. and S.65° W.
67.00	Bottom of draw, course N.70° E. 400 ft.deep. Ascend.
71.00	Top of spur, 30 ft.above draw, bears N.70° E. and S.70° W. Descend.
78.50	Enter scattering aspen timber, bearing E.and W.
80.00	Set an iron post 3 ft.long, 3 ins.in dia., 24 ins.in the ground, for cor.of secs.12 and 13 T.4 S., R.7 W.only, mkd.on brass cap
	T 4 S R 7 W | S 12 S 12 | 1913
	from which
	An aspen, 9 ins.dia., bears S.10° W. 35 lks.dist. marked T 4 S R 7 W S 13 B T

WEST BOUNDARY T. 4 S., R.6 W.

Chains.	
	An aspen, 9 ins.dia., bears N.10° W.16 lks.dist. marked T 4 S R 7 W S 12 B T
	Note: I mark this post for cor.of secs.12 and 13 only, knowing that closing corner will be required from the east.
	Land, mountainous.
	Soil, loam, mixed with rock, 3d rate; subsoil, gravel.
	Timber, pine and aspen.
	Undergrowth, service-berry, sagebrush, and chokecherry brush.
	Good grass for grazing.
	Mountainous, or heavily timbered land, or land covered with dense undergrowth 80.00 chs.
	North bet.secs.7 and 12,
	Descending over mountainous land; through dense undergrowth and scattering timber.
4.67	Old drag road, bears E.and W.
5.70	Martin's Fork of Boxelder Canon, 75 ft.below sec.cor., course S.80° E. Creek 2 lks.wide, 1 in.deep, in bottom. Ascend.
6.00	Leave timber and chokecherry brush; enter dense sagebrush and scattering service-berry brush, bearing E. and W.
12.45	Enter scattering cedar timber, bearing E.and W.
15.70	Leave cedars and enter mahogany timber, bearing E.and W.
30.70	Top of spur, 500 ft.above canon, bears N.75° W. and S. 75° E. Descend.
32.15	Leave mahogany; enter service-berry and sagebrush, bearing E.and W.
37.50	Head of hollow, 50 ft.below spur, course S.80° E.
40.00	Set an iron post 3 ft.long, 1 in.in dia., 12 ins.in the ground, on rock, and surrounded by mound of stone, for ¼ sec.cor., mkd.on brass cap

WEST BOUNDARY T.4 S., R.6 W.

Chains. ¼ S 12 | S 7
1913

Raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

45.15 Top of ridge, 25 ft.above ¼ sec.cor., bears N.75° E. and S.75° W. Descend.

59.00 Bottom of hollow, 300 ft.below ridge, course N.70° E. Ascend.

63.50 Divide ridge, 75 ft.above hollow, bears N.60° E., and S. 60° W. Descend.

74.75 Enter aspen timber, bearing E.and W.

76.00 Leave aspen timber, bearing E.and W.

77.00 Old sheep corral on line.

77.50 Head of small draw, 75 ft.below ridge, course N.70°E. Ascend.

80.00 Set an iron post 3 ft.long, 3 ins.in dia., 24 ins.in the ground, for cor.of secs.1 and 12, T.4 S., R.7 W.only, mkd.on brass cap

T 4 S
R 7 W
S 1
S 12
1913

Raise a mound of stone 2 ft.base, 1½ ft.high W.of cor.

Note: Reasons already explained for marking this cor. for 2 secs.only.

Land, mountainous, steep slopes.

Soil, rocky and gravelly with a small amount of rich mountain loam among the rocks and gravel; about 2 ft. deep; subsoil, cemented gravel and rock.

Timber, pine and aspen and cedar.

Undergrowth, dense service-berry, chokecherry, sage, and deer brush.

Good grass for grazing.

Mountainous or heavily timbered land, or land covered with dense undergrowth 80.00 chs.

July 17, 1913: At this cor.I set off 21° 13'N.on the decl.

W.bdy.T.4 S.,R.6 W.-Continued.

Chains	
	and at 0 h 6 m p.m., l. m.t. I observe the sun on the meridian the resulting lat.is 40°30'N.,which is the proper lat.nearly.
	North,bet.secs.1 and 6.
	Over mountainous land;through dense undergrowth.
	Asc.
1.40	Top of spur,20 ft.above cor.projects N.70°E.
	Desc.
2.00	Enter service berry brush,bears E.and W.
14.80	Enter scattering timber and dense chokecherry brush,bears E.and W.
17.15	South Willow Creek Canon,300 ft.below spur,course E.
	Creek,10 lks.wide,1 ft.deep,in bottom. asc.
18.75	Old road,bears E.and W.
19.00	Leave pine timber and chokecherry brush and enter dense sage brush,bears E.and W.
23.20	Top of spur,100 ft.above canon,bears ~~N.80°W.~~and S.80°E.
	Desc.
27.50	Wash,30 lks.wide,10 ft.deep,in bottom of hollow,20 ft.below spur,course S.70°E.
	Asc.
35.00	Ledge,20 ft.high,bears N.60°W.and S.70°E.
39.00	Top of spur,100 ft.above hollow,bears N.60°W.and S.60°E
	Desc.
40.00	Set an iron post,3 ft.long,1 in.in dia.,26 ins.in the ground,for ¼ sec.cor..mkd.on brass cap
	¼ S 1 | S 6 1913
	from which
	A cedar,15 ins.dia.,bears N.3°45'E.,240 lks. dist..mkd.¼ S 6 B T.
	A cedar,7 ins.dia.,bears N.5°30'W.,2 37 lks. dist.;mkd.¼ S 1 B T.
42.30	Top of ridge,40 ft.above ¼ sec.cor.,bears N.70°W.and S. 70°E.

W.bdy.T.4 S.,R.6 W.-Continued,

Chains	
44.40	Enter service berry and deer brush,bears E.and W.
49.30	Top of spur,30 ft.above hollow,bears N.70°W.and S.70°E. Desc.
59.50	Enter scattering pine and choke cherry,bears N.70°W.and S.70°E.
59.60	Miner's Fork,150 ft.below spur,bears NW and SE. Asc.
60.00	Leave pine and choke cherry and enter sage brush,bears N.60°W.and S.60°E.
64.80	Road,bears N.70°E. and S.70°W.
66.19	Top of ridge,300 ft.above canon,bears N.75°W.and S.75°E

Intersect N.bdy.of Tp.,14.75 chs.East of the cor.of Tps. 3 and 4 S.,Rs.6 and 7 W.,which is an iron post,3 ins.in dia.,extending 12 ins.above the ground,firmly set,and mkd.and witnessed as described by the surveyor general.

Set an iron post,3 ft.long,3 ins.in dia.,12 ins.in the ground,on solid rock,and surrounded by mound of stone,for closing cor.of Tps.4 S.,Rs.6 and 7 W.,mkd.on brass cap

T 3 S
R 7 W | R 6 W
S 36 | S 31
cc
S 1 | S 6
R 7 W | R 6 W
T 4 S

from which 1913

A cedar,16 ins.dia.,bears S.75°15'W.116 lks. dist.;mkd.T 4 S R 7 W S 1 B T.

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

Note:I destroy the marks on the cor.of Tps.3 and 4 S.,Rs. 6 and 7 W.,which pertain to Tps.4 S.,Rs.6 and 7 W.

Land,mountainous .

Soil,clay loam mixed with gravel and rock;3rd rate.

Timber,pine and aspen.

Undergrowth,sage ,service berry,choke cherry,and deer brush.

Good grass for grazing.

Mountainous or heavily timbered land,or land covered with dense undergrowth,66.19 chs.

Chains

July 17,1913.

Robert D. Dalton

U.S.Transitman.

~~U.S.Xxxxxxxxx.~~

Retracement East bdy.T.4 S.,R.6 W.

Survey commenced July 8,1913,and executed with a Keuffel & Esser light mountain transit No.20037,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 latitude and declination arcs.

The instrument was examined,tested on the meridian at Salt Lake City,found correct,and was approved by the assistant supervisor of surveys May 11,1913.

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

At the cor.of secs.1,6,7,and 12 .,on E.bdy.of Tp.,hereto fore described.latitude 40°29'32"N.,longitude 112°27'53"W., I set off 40°30'N.,on the lat.arc;22° 29'N.,on the decl; arc;and mark the meridian determined with the solar,at 4 h 5 m p.m.,l.m.,t.,by a cross on a stone firmly set in the ground,5.00 chs.N.of the cor.

July 8,1913.

July 9,1913:At 0 h 26.5 m.a.,m.l.m.t.,I observe Polaris

Retracement E.bdy.T.4 S.,R.6 W.-Continued.

Chains	
	at eastern elongation in accordance with the Manual,and m mark a point in the line thus ddtermined by driving a tack in a wooden plug set in the ground,5.00 chs.N.of th cor.
	At 7 h.30 m a.m.,l.m.t.,I lay off the azimuth of Polaris 1°31'to the west,and mark the meridian thus determined by cutting a small groove in the stone already set 5.00 chs.N.of the cor.;this mark falls 0.45 ins.east of the meridian established by the solar.
	At 8 h 5 m a.m.,l.m.t.,I set off 40°50'N.,on the lat.arc; 23°2 5'N.,on the decl.arc;and mark the meridian determin ed with the solar,by a cross on the stone already set 5.00 chs.Nlof the cor.;this mark falls 0.35 ins.east of the meridian established by Polaris observation.
	The solar apparatus by p.m.and a.m.observations defines positions for meridians respectively about 0(' 24"west and 0'18"east of the meridian established by Polaris observation;therefore I conclude that the adjustments of the instrument are satisfactory.
	The magnetic bearing of the meridian at 8 h 30 m a.m.,is N.16°55'W.;the angle thus determined gives the mag.decl. 16°55'E.

	From the cor.of secs.1,6,7,and 12.,
	I run
	North,on a retracement line bet.secs.1 and 6 .
	Over rolling ground,through dense sage brush.
2.00	Wash 80 lks.wide,10 ft.deep,course E.
7.00	Begin ascent,bears E.and W.
30.90	Enter scattering cedars,bears E.and W.
40.00	Fall 93 lks.E.of the ¼ sec.cor.bet.secs.1 and 6,which i s which is a sandstone,10x10x5 ins.above ground,firmly set, and mkd.and witnessed as described by the surveyor general.
43.40	Top of bench,bears E.and W.
43.75	Leave cedar,bears E.and W.

Retracement E.bdy.T.4 S.,R.6 W.-Continued.

Chains	
53.80	Enter scattering cedars,bears E.and W.
79.57	Fall 177 lks.E.of the cor.of Tps.3 and 4 S.,Rs.5 and 6 W. which is a cobble stone,8x6x6 ins.,above ground,firmly set and mkd.and witnessed as described by the surveyor general. The course of the south half of this mile is therefore N.1°20'W.,40.00 chs.and the north half is N.1°13'W.,39.57 chs.
	Land,rolling .
	Soil,gravelly and clay loam;2nd and 3rd rate.
	Timber,scattering cedars.
	Undergrowth,sage brush.
	Some grass for grazing.
	Land covered with dense undergrowth,79.57 chs.
	South,on a retracement line bet.secs.7 and 12.
	Over rolling land;through dense sage brush.
.20	Old road,bears N.75°W.and S.75°E.
4.00	Leave bench,bears E.and W.
	Desc.
12.40	Road,bears E.and W.
39.78	Fall 35 lks.West of the ¼ sec.cor.bet.secs.7 and 12, which is a stationary sandstone,30x16x4 ins.,above ground mkd.and witnessed as described by the surveyor general.
56.00	Begin ascent of hill,bears E.and W.
62.30	Top of hill,300 ft.above foot,bears N.70°E.and S.70°W.
	Desc.
79.08	Fall 93 lks.West of the cor.of secs.7,12,13,and 18,which is a sandstone,16x6x4 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general. The course of the north half of this mile is therefore S.0°30'E.,39.78 chs.and the south half is S.0°51'E.,39.30 chs.
	Land,rolling .
	Soil,gravelly and clay loam;3rd rate. Subsoil,gravel.

Chains	
	Timber,a few scattering cedars.
	Undergrowth,sage brush.
	Some grass for grazing.
	Land covered with dense undergrowth,79.08 chs.
	July 9,1913:At this cor.I set off 22°23'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°29'N.,which is the proper lat.nearly.
	S.on a retracement line bet.secs.13 and 18.
	Over rolling hills;through dense undergrowth.
	Desc.
5.00	Enter dense mahogany,bears E.and W.
10.00	Bottom of hollow,50 ft.below cor.,course N.70°E.
	Asc.
19.80	Top of spur,50 ft.above hollow,bears N.70°E.and S.70°W.
	Desc.
20.10	Bottom of hollow,20 ft.below spur,course N.70°.E
	Asc.
21.00	Leave mahogany,bears E.and W.
39.56	Fall 33 lks.W.of the ¼ sec.cor..which is a sandstone,11x10 x3 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general.
45.00	Top of ridge,250 ft.above hollow,bears N.80°E.and S.80°W.
	Desc.
71.00	Bottom of hollow,250 ft.below spur,course S.80°W.
	Asc.
78.10	Top of spur,150 ft.above hollow,bears N.80°E.and S.80°W.
	Desc.
78.60	Fall 17 lks.west of the cor.of secs.13,18,19,and 24,which is a sandstone,12x6x6 ins.,above ground,firmly set,and marked and witnessed as described by the surveyor general.
	The course of the north half of this mile is therefore S.0°28'E.,39.56 chs.and the south half is S.0°15'W.39.04 chs.

Retracement E.bdy.T.4 S.;R.6 W.-Continued.

Chains	
	Land ,rolling hills.
	Soil,gravelly and rocky;2ft.deep;3rd rate.
	Subsoil,gravel.
	No timber.
	Undergrowth,mahogany and sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,78.60 chs.
	South,on a retracement line bet.secs.19 and 24.
	Over hilly country;through dense undergrowth.
	Desc.
7.75	Bottom of hollow,150 ft.below cor.,course S.80°W.
	Asc.
11.40	Top of spur,100 ft.above hollow,bears N.80°E.and S.80°W.
	Desc.
14.50	Enter scattering cedars,bears E.and W.
24.25	Bottom of hollow,150 ft.below spur,course W.
	Asc.
27.40	Top of spur,50 ft.above hollow,bears E.and W.
	Desc.
36.30	Bottom of hollow,100 ft.below spur,course W.
	Asc.
38.30	Top of spur,75 ft.above hollow,bears E.and W.
	Desc.
39.32	Fall 10 lks.W.of the $\frac{1}{4}$ sec.cor.bet.secs.19 and 24,which is a sandstone,10x7x4 ins.,above ground,firmly set,and mkd. and witnessed as described by the surveyor general.
43.20	Bottom of hollow,100 ft.below spur,course W.
	Asc.
48.30	Top of spur,50 ft.above hollow,bears E.and W.
	Desc.
51.60	Enter heavy timber,bears E.and W.
63.60	Wash,10 lks.wide,6 ft.deep;course S.70°W.
66.60	Enter wash,course S.
69.70	Leave wash;course S.15°E.

Retracement E.bdy.T.4 S.,R.6 W.-Continued.

Chains	
76.10	Old road,bears N.75°E.and S.75°W.
84.01	Fall 26 lks.W.of the cor.of secs.19, 24,25,and 30,which is a sandstone,12x8x6 ins.,above ground,firmly set,and mkd.and witnessed as described by the surveyor general. The course of the north half of this mile is therefore S.0°09'E. 39.32 chs.and the south half is S.0°12'E.44.69 chs.
	Land,rolling hills.
	Soil,sandy,gravelly and rocky;3rd rate.Subsoil,gravel.
	Timber,cedar.
	Undergrowth,sage brush.
	Good grass for grazing.
	Land covered with dense undergrowth,84.01 chs.
	July 9,1913.

Retracement South bdy.T.4 S.,R.6 W.

July 12,1913:At 8 h 12 m a.m.,l.m.t.I set off 40°25'N.,on the lat.arc;22°01'N.,on the 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

West,on a retracement line along the south bdy.Tp.bet.secs. 4 and 33.

Over rolling land;through dense sage brush.

asc.gradually.

10.00	Wash,10 lks.wide,course N.65°E.
	Asc.
13.90	Top of spur,300 ft.above wash,bears N.15°E.and S.15°W.
	Desc.
21.00	Bottom of hollow,100 ft.below spur,course N.65°E.
	Asc.
31.60	Top of spur,500 ft.above hollow,bears N.65°W.and S.65°E.

Retracement S.bdy.T.4 S.,R.6 W.Continued.

Chains	
	Desc.
35.90	Head of small gulch,30 ft.below spur,course S.65°E.
	Asc /
39.68	Fall 56 lks.S.of the ¼ sec.cor.,bet.secs.4 and 33,which is a sandstone,12x8x4 ins.,above ground,firmly set,and mkd. and witnessed as described by the surveyor general.
47.40	Top of ridge,250 ft.above hollow,bears N.30°E.and S.30°W.
	Desc.
51.50	Enter service berry and buck brush,bears N.and S.
55.70	Canon,350 ft.below ridge,course N.30°E.
	Asc.along south side of ridge,.
56.70	Leave brush,bears N.and S.
64.10	Top of spur,300 ft.above canon,bears N.25°W.and S.25°E.
	Desc.
69.10	Head of small draw,course S.30°E.
	Asc.
79.96	Fall 122 lks.S.of the cor.of s cs.4,5,32,and 33,which is a sandstone,14x8x4 ins.,above ground,firmly set,and mkd.n and witnessed as described by the surveyor general.
	The course of the east half of this mile is therefore N.89°12 'W.,39.68 chs.and the west half is N.89°03'W.,40. 2 8 chs.
	Land,rolling and mountainous .Rough on W.69.96 chs.
	Soil, gravelly on E.10.00 chs.2 nd rate.balance is gravelly with rocks mixed;3rd rate .
	No timber,
	Undergrowth,sage,service berry,and buck brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 79.96 chs.
	July 12,1913:At this cor.I set off 22°00'N.,on the decl. arc;and at 0 h 5 m p.m.,l.m.t.,I observe the sun on the meridian the resulting lat.is 40°25'N.,which is the proper lat.nearly.

Chains	
	West, on a retracement line bet.secs.5 and 32.
	Over mountainous land through dense undergrowth.
	Asc.
9.90	Top of ridge, 100 ft.above cor., bears N.and S.
	Desc.
16.10	Enter scattering pine timber, bears N.and S.
16.25	Bottom of hollow, 400 ft.below ridge, course N.15°W.
	Asc.
18.15	Top of spur, 50 ft.above hollow, bears N.15°W.and S.15°E.
	Desc.
20.75	Leave pine and enter aspen timber, bears N.and S.
22.00	Bottom of hollow, 30 ft.below spur, course N.10°W.
	Asc.
22.50	Leave timber and enter dense undergrowth, N.and S.
24.10	Top of spur, 250 ft.above hollow, bears N.10°W.and S.10°E.
	Desc.
27.00	Bottom of hollow, 150 ft.below spur, course N.10°W.
	Asc.
30.15	Top of spur, 100 ft.above hollow, bears N.10°W.and S.10°E.
	Desc.
39.58	Fall 33 lks.S.of the $\frac{1}{4}$ sec.cor.bet.secs.5 and 32, which is a limestone, 16x8x4 ins., above ground, firmly set, and mkd.and witnessed as described by the surveyor general.
41.00	Bottom of hollow, 30 ft.below spur, course N.15°W.
	Asc.
41.30	Enter scattering pine timber, bears N.15°W.and S.15°E.
48.30	Leave timber, bears N.and S.
54.00	Top of spur, 300 ft.above hollow, bears N.15°W.and S.15°E.
	Desc.
57.20	Bottom of hollow, 300 ft.below spur, course N.20°W.
	Asc.
59.00	Top of spur, 100 ft.above hollow, bears N.20°W.and S.20°E.
	Desc.
66.70	Bottom of hollow, 400 ft.below ridge, course N.35°W.
	Asc.
67.40	Enter scattering pine timber, bears N.35°W.and S.35°E.

Chains	
75.10	Fall 63 lks.S.of the cor.of secs.5,6,31,and 32,which is a limestone,16x8x8 ins.,above ground,firmly set,and mkd. and witnessed as described by the surveyor general.
	Top of spur,200 ft.above hollow,bears N.10°W.and S.10-°E.
	The course of the east half of this mile is therefore N.89°32'W.,39.58 chs.and the west half is N.89°30'W.,35.52 chs.
	Land,mountainous ,high and steep slopes.
	Soil,gravelly mixed with mountain loam;3rd rate.Subsoil, gravel and rock.
	Timber,pine and aspen.
	Undergrowth,sage,service berry,and buck brush.
	Good grass for grazing.
	Mountainous or heavily timbered land,or land covered with dense undergrowth,75.30 chs.

July 12,1913.

July 15,1913:At 8 h 6 m a.m.,l.m.t.,I set off 40°25'N.,on the lat.arc;21°35'N.,on the decl.arc;and determine a meridian with the solar,at the cor.of secs.5,6,31,and 32.

Thence I run

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

Over mountainous land;through dense undergrowth.

	Desc.
6.40	Top of ledge,20 ft.high,bears N.10°W.and S.10°E.
9.35	Foot of steep ascent,bears N.15°E.and S.15°W.
13.55	Top of spur,50 ft.above foot,bears N.10°E.and S.10°W.
	Desc.
19.40	Point of cliff,15 ft.high,bears N.15°E.
28.22	Bottom of Hickman Canon,50 ft.below spur.course N.80°E.
	Asc.
39.16	Fall 34 lks.S.of the ¼ sec.cor.bet.secs.6 and 31,which is a limestone,14x10x8 ins.,above ground,firmly set,and mkd.

Chains	
	and witnessed as described by the surveyor general.
41.55	Enter sage brush,bears NE.and S.
58.00	Top of limestone,apur,50 ft.above canon,bears N.15°W.and S.15 °E.
	Desc.
67.50	Wash,12 lks.wide,8 ft.deep,course S.25°E.
	Asc.
71.70	Top of spur,69 ft.above hollow,bears N.25°W.and S.25°E.
	Desc.
77.00	Wash,15 lks.wide,6 ft.deepcourse S.15°E.
	Asc.
78.27	Fall 52 lks.S.of the cor.of Tps.4 and 5 S .Rs.6 and 7 W., which is a limestone,10x10x8 ins.,above ground,firmly set, and mkd.and witnessed as described by the surveyor general. The course of the east half of this mile is N.89°30'W.,39.16 chs.;and the west half is N.89°44'W.,39.11 chs.
	Land mountainous and broken.
	Soil,gravelly and rocky;3rd and 4th rate.
	No timber.
	Undergrowth,Service berry and deer brush and sage brush.
	Good grass for grazing.
	Mountainous land,or land covered with dense undergrowth, 78.27 chs.
	July 15,1913:At this cor.I set off 21°33'N.,on the decl. arc;and at 0 h 6 m p.m.,l.m.t.,I observe the sun on the meridian,the resulting lat.is 40°25'N.,which is the proper lat.nearly.

July 15,1913.

Robert D. Dalton

U.S.Transitman.

~~Xxxxxxxxxxxxx~~.

General description.

For general description see Sub.T.4 S.,R.6 W.

Boundaries of T.4 S.,R.6 W.

Boundaries of T.4 S.,R.6 W.

Latitudes ,departures,and cle sing errors.

Line designated	Course	Distance. chs.	Latitudes N. chs.	Latitudes S chs.	Departures E chs.	Departures W chs.
W.bdy.T.4 S.,R.6 W.	North	466.19	466.19			
N.bdy.T.4 S.,R.6 W.	East	144.01			144.01	
N.bdy.T.4 S.,R.6 W.	N.89°07'E.	80.06	1.23		80.06	
E.bdy.sec.4	S.0°45'E.	79.89		79.89	1.05	
E.bdy.sec.9	S.1°02'E.	40.34		40.33	.72	
E.bdy.sec.9	S.1°25'E.	29.10		29.09	.72	
E.bdy.sec.16	S.2°26'E.	79.05		78.98	3.36	
E.bdy.sec.21	S.0°17'E.	80.22		80.22	.40	
E.bdy.sec.28	S.1°15'E.	79.92		79.91	1.75	
E.bdy.sec.33	S.1°E.	20.00		20.00	.35	
E.bdy.sec.33	S.0°08'W.	61.56		61.56		.14
S.bdy.T.4 S.,R.6 W.	N.89°13'W.	39.68	.56			39.68
S.bdy.T.4 S.,R.6 W.	N.89°03'W.	40.28	.66			40.28
S.bdy.T.4 S.,R.6 W.	N.89°32'W.	39.58	.33			39.58
S.bdy.T.4 S.,R.6 W.	N.89°30'W.	35.52	.31			35.52
S.bdy.T.4 S.,R.6 W.	N.89°30'W.	39.16	.34			39.16
S.bdy.T.4 S.,R.6 W.	N.89°44'W.	39.11	.30			39.11
Convergency					.30	
Totals			469.92	469.98	232.72	233.47
				469.92		232.72
Error in lat.				.06	Error dep.	.75

July 15,1913.

John D. Stewart

U.S.Surveyor.

Robert D. Dalton

U.S.Transitman.

T.4 S.,R.6 W.

Boundaries of Secs.12,13, and 24.

Latitudes ,departures, and closing errors.

Line designated		Course	Distance chs	Latitudes N chs	Latitudes S chs	Departures E chs	Departures W chs
S.side	Sec.24	S.89°42'W.	80.14		.42		80.14
W. "	" "	N.0 °9' W.	80.53	80.53			.21
W.side	sec.13	N. 1°58'W.	79.94	79.89			2.74
W. "	" 12	N. 4° 8'W.	28.72	28.64			2.07
W."	" "	N. 0°48'W.	40.03	40.03			.56
N.side	of sec.12	N.81°22'E.	85.42	12.82		84.45	
E. "	" " "	S. 0°30'E.	39.78		39.78	.35	
" "	" " 12	S. 0°51'E.	39.30		39.30	.59	
" "	" " 13	S. 0°28'E.	39.56		39.56	.33	
" "	" " 13	S. 0°15'W.	39.04		39.04		.17
" "	" " 24	S. 0° 9'E.	39.32		39.32	.10	
" "	" " "	S.0 °12'E.	44.69		44.69	.16	
Convergency						.05	
				241.91	242.11	86.03	85.89
					241.91	85.89	
Error in lat. and dep.					.20	.14	

John R Stewart
U.S.Surveyor.

RESURVEY
OF
SUBDIVISION OF T.4.S.,R.6 W.

Filed Jan. 14, 1916.

U.S. Surveyor General's Office
JAN 14 1916
SALT LAKE CITY, UTAH.

Chains

Survey commenced Dec. 11, 1915, and executed with a Buff & Buff transit No. 8028, with a 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 approved by the Assistant Supervisor of Suryeys.

It was impracticable to test instrument at this time on account of stormy weather, and I know the instrument to be in good adjustment from recent tests made at camp, sec. 16, T.8 S.,R.1 W.

A steel tape 4 chains long was used in all field work, together with clinometers for determining slope angles. The tape was tested frquently during the season, comparsions being made with a standard tape 1 chain long kept for this purpose.

Dense fog and snow stormprevented work on this date.

Dec. 11, 1915.

Dec. 16: Dense fog prevented work during a.m. hours. At 2h p.m.,l.a.t., I set off 40° 25' on the lat. arc; 23° 16'S., on the decl. arc; and determine a meridian with the solar at the $\frac{1}{4}$ sec. cor., bet. secs. 29 and 32, which is an iron post, 1 in. in dia., 3 ft. long, set in the ground 12 ins., and in a mound of stone, 3 ft. base, 14 ins. high, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.

I destroy the marks on this cor. pertaining to sec. 29.

Thence I run

East bet. secs. 29 and 32.

1.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for $\frac{1}{4}$ sec. cor, with brass cap marked

S29
$\frac{1}{4}$
1915

Chains	
	Raise a mound of stone, 2½ ft. base, 1½ ft. high N. of cor.
	Dec. 16, 1915.
	Dec. 13: At 2h p.m.,l.a.t., I set off 40° 26' on the lat. arc; 23° 06'S., on the decl. arc; and determine a meridian at the ¼ sec. cor. bet. secs. 21 and 28, which is an iron post, 1 in. in dia., 3 ft. long, set 16 ins. in the ground, and in a mound of stone, 3 ft. base, 10 ins. high, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.
	I destroy this ¼ sec. cor.
	Thence I run
	West bet. secs. 21 and 28.
2.42	Set an iron post, 1 in. in dia., 3 ft. long, 26 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S21 ¼ / S28
	1915
	Raise a mound of stone, 3 ft. base, 2 ft. high N. of cor.
	Dec. 13, 1915.
	Dec. 13: For solar observation see line bet. secs. 21 and 28.
	From the ¼ sec. cor. bet. secs. 16 and 21, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.
	I destroy this ¼ sec. cor.
	Thence I run
	S.89° 57'W., bet. secs. 16 and 21.
2.59	Set an iron post, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., with brass cap marked

Chains	
	S16 $\frac{1}{4}$ S21 1915
	Raise a mound of stone, 3 ft. base, 2 ft. high N. of cor.
	Dec. 13: Instrument in transit at noon. No observation for lat. taken.

	Dec. 12: Dense fog until 10h a.m. Sky overcast. Impossible to take solar observations.
	From the $\frac{1}{4}$ sec. cor. bet. secs. 9 and 16, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.
	I destroy this cor.
	Thence I run
	East bet. secs. 9 and 16, on line for cor. of secs. 9, 10, 15 and 16, which is visible.
1.20	Set an iron post, 1 in. in dia., 3 ft. long, 26 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked
	S9 $\frac{1}{4}$ S16 1915
	Raise a mound of stone, 3 ft. base, 2 ft. high N. of cor.
	Dec. 12: Sky overcast at noon. No observation for lat. taken.

	From the $\frac{1}{4}$ sec. cor, bet. secs. 8 and 17, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.
	I destroy the marks on this $\frac{1}{4}$ sec. cor., pertaining to sec. 8.
	Thence I run

Chains	
	West bet. secs. 8 and 17.
12.44	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 8 / ¼
	1915
	Raise a mound of stone, 3 ft. base, 2 ft. high N. of cor.
	Dec. 12, 1915.
	Dec. 15: Dense fog during a.m. hours.
	At 2h p.m., l.a.t., I set off 40°.30' on the lat. arc; 23° 13'S., on the decl. arc; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 8 and 9, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by J. R. Stewart, U. S. Surveyor.
	I destroy this cor.
	Thence I run
	South bet. secs. 8 and 9.
6.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., with brass cap marked
	S8 ¼ | S9
	1915
	From which
	A cedar, 7 ins. in dia., brs. S.85°E., 59 lks. dist., marked ¼ S 9 B T.
	A cedar, 7 ins. in dia. brs.N.25°W., 89 lks. dist., marked ¼ S 8 B T.
	Dec. 15: For further work on this date see notes of line bet. secs. 5 and 6.
	Dec. 14: Dense fog and snow storm during a.m. hours.
	Sky over cast, impossible to take solar observations.

RESURVEY
OF
SUBDIVISION OF T.4 S.,R.6 W.

Chains	
	The closing cor. of secs. 5 and 8, being visible from $\frac{1}{4}$ sec. cor. bet. secs. 5 and 8, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by J. R. Stewart, U. S. Surveyor. I destroy this $\frac{1}{4}$ sec. cor., Thence run
	East, bet. secs. 5 and 8.
6.39	Set an iron post, 3 ft. long, 1 in. in dia., 18 ins. in the ground to solid rock, and raise a mound of stone, 3 ft. base, 8 ins. high around post, for $\frac{1}{4}$ sec. cor., with brass cap marked
	S 5 $\frac{1}{4}$ / 1915
	Raise a mound of stone, 3 ft. base, $1\frac{1}{2}$ ft. high N. of cor. Thence I return to point of old $\frac{1}{4}$ sec. cor., and run
	West bet. secs. 5 and 8.
6.39	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground, to solid rock, and raise a mound of stone, 3 ft. base, 10 ins. high around post, for $\frac{1}{4}$ sec. cor., with brass cap marked
	S 8 $\frac{1}{4}$ / 1915
	Note: no other stones available to raise a mound of stone S. of cor.
	Dec. 14, 1915.

Dec. 15: For solar observations see line bet. secs. 8 and 9.

The cor. of secs. 6 and 7, was marked for 4 secs. I destroy the marks on cor. pertaining to secs. 5 and 8.

From this cor.

A cedar, 10 ins. dia., brs. N.79°W., 220 lks. dist.; marked T 4 S R 6 W S 6 B T.

chains	
	A cedar, 8 ins. dia., brs. S.28°30'W.,40 lks. dist.; marked T 4 S R 6 W S 7 B T.
	From the ¼ sec. cor. bet. secs. 5 and 6, which is an iron post, 1 in. in dia., 12 ins. above the ground, marked and witnessed as described by R. D. Dalton, U. S. Transitman.
	I destroy the marks on this ¼ sec. cor. pertaining to sec. 5.
	Thence I run
	South bet. secs.5 and 6.
12.70	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 5 ¼
	1915
	From which
	A cedar, 8 ins. dia., brs. N.11°E.,177 lks. dist. marked ¼ S 5 B T.
	A cedar, 4 ins. dia., brs. S.47°E.,7 lks. diat.; marked ¼ S 5 B T.
	Dec. 15, 1915.

Ralph Gurley
U. S. Surveyor.

4—680

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, an R. Stewart and Robert D. Dalton U. S. Surveyor and Transitman during the periods and in the capacities ated opposite our several signatures, in surveying all those parts or portions of W. bdy. and retrace-ent N. bdy. and Sub. T. 1 N., R. 9 W.; Retracement E. and S. bdys. and Sub. T. 1 S., .9 W.; S. bdy. and Sub. T. 2 N., R. 7 W.; Retracement S. bdy. and Sub. T. 1 N., R. 7 W.; alt Lake Base Line through Range 6 W. and E. bdy. Retracement S., W., and E. dys. and Survey of Sub. T. 1 S., R. 6 W.; N. bdy. and Sub. T. 1 N., R. 6 W.; Sub. .2 N., R. 6 W.; Retracement S. bdy. and Sub. and Survey of Sub. T. 1 S., R. 5 W.; bdy., retracement E. bdy and Retracement S. bdy., Sub. and Retracement Sub. 4 S., R. 6 W.

f the Salt Lake Base and Meridian, in the State of Utah

hich are represented in the foregoing field notes books "A" to "K" inclusive as having been executed by ~~him~~ them, and under ~~his~~ their direc-on; and that said survey has been, in all respects, to the best of our knowledge and belief, well and ithfully executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
Perry Dalton.	May 1st 1913	June 30, 1913	Flagman + Chainman
J. M. Dalton	May 1st 1913	May 31 1913	Chainman
J. Clarence Clark	May 1 1913	July 25 1913	Chainman
Frank S. Alles	May 1, 1913	July 25 1913	Chainman
William Stowell	May 1, 1913	July 25 1913	Cornerman
George Buchanan	May 1 1913	July 25 1913	Cornerman
Morgan Lewis	May 1, 1913	July 25, 1913	Flagman + chainman
William P. Helps	July 11, 1913.	July 25, 1913	Flagman
John C. Stewart	May 1, 1913	July 25, 1913	Flagman
Russell C. Clark	May 1, 1913	July 25 1913	Chainman

Subscribed and certified to before me on the dates of the final service as shown above.

John R. Stewart
U. S. Surveyor.

6—2761

FINAL OATH OF UNITED STATES SURVEYOR.

I, John R. Stewart Robert D. Dalton, S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the ..... day of ....., 191 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of W. bdy. and Retracement N. bdy. and Sub. T. 1 N., R. 9 W.; Retracement E. and S. bdys. and Sub. T. 1 R. 9 W.; S. bdy. and Sub. T. 2 N., R. 7 W.; Retracement S. bdy. and Sub. T. 1 N., R. 7 S. L. B. Line thru R. 6 W.; and E. bdy.; Retracement S. W., and E. bdys. and Sub. T. 1 R. 6 W.; N. bdy. and Sub. T. 1 N., R. 6 W.; Sub. T. 2 N., R. 6 W.; Retracement S. bdy. an Survey Sub. T. 1 S., R. 5 W.; W. bdy. and Retracement E. bdy. and S. bdy.; Sub. and Retracement Sub. T. 4 S., R. 6 W. S. L. B. and ..... Meridian, in the State of Utah, which are represented in the foregoing field notes as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

John R. Stewart
U. S. Surveyor.

Subscribed by said ....., and sworn to before me this ..... day of ....., 191

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 191

The foregoing field notes of the survey of .....

executed by .....

under his special instructions dated ....., 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2761

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

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of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

I, John R. Stewart, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 10th day of April, 1913, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of W. bdy. and retracement N. bdy. T. 1 N. R. 9 W.; N. bdy. T. 1 N. R. 7 W.; retracement S. bdy. T. 1 S. R. 6 W.; North bdy. T. 1 N. R. 6 W. and S. bdy. T. 1 S. R. 5 W.; retracement E. and S. bdrs. T. 4 S., R. 6 W.; the Salt Lake Base line, through Rs. 6 and 7 W.; subdivision of T. 1 N. R. 7 W.; T. 1 N. R. 9 W.; T. 1 S. R. 9 W. and the subdivision and meanders in T. 2 N. R. 7 W.; T. 1 S. R. 6 W.; T. 1 N. R. 6 W.; T. 2 N. R. 6 W. T. 1 S. R. 5 W.; and T. 4 S. R. 6 W. of the Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes in books "A" to "K" inclusive as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

John R. Stewart
U. S. Surveyor.

Subscribed by said John R. Stewart, and sworn to before me this 23 day of January, 1915

M. C. Thoreson
U. S. Surveyor-General
for Utah.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 191

The foregoing field notes of the survey of .....

executed by .....

under his special instructions dated ....., 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

.....
U. S. 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.

.....
U. S. Surveyor General.

6—2761

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

.....

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of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

6—2761 *U. S. Surveyor.*

FINAL OATH OF UNITED STATES ~~SURVEYOR~~ Transitman.

I, Robert D. Dalton, U. S. ~~Surveyor~~ Transitman, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 10th day of April, 1913, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of Township 1 North, Range 9 West; Township 1 South, Range 9 West; Township 1 South Ranges 5 and 6 West; Townships 1 and 2 North, Range 6 West; and Township 4 South, Range 6 West

of the Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes in books A.B.C.G.H.I.J.& K. as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Robert D. Dalton
~~U. S. Surveyor.~~ U.S. Transitman.

Subscribed by said Robert D. Dalton and sworn to before me this 24th day of August, 1914

Henry Gerhardt
U. S. Surveyor General for Montana.

SEAL OFFICIAL SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

, 191

The foregoing field notes of the survey of

executed by

under his special instructions dated , 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2761

4—680

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, Ralph Gurley, U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of N.L. Subdivision of T 4 S., R. 6 W.

of the Salt Lake Basing Meridian, in the State of Utah which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
Sterling Wright	Dec. 11, 1915	Dec. 16, 1915	Head Chainman
Sidney Read	Dec. 11, 1915	Dec. 16, 1915	Rear Chainman
M. F. Wright	Dec. 11, 1915	Dec. 16, 1915	Flagman

Subscribed and certified to before me on the dates of the final service as shown above.

Ralph Gurley
U. S. Surveyor.

6—2764

FINAL OATH OF UNITED STATES SURVEYOR.

I, Ralph Gentry, U. S. Surveyor, do solemnly swear that, in pursuance of supplemental special instructions received from the U. S. Surveyor General for Utah bearing date of the 29th day of July, 1915, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the Subdivision of T. 4 S., R. 6 W.

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

Ralph Gentry
U. S. Surveyor.

Subscribed by said Ralph Gentry, and sworn to before me this 14th day of January, 1916

N. C. Thorsen
U. S. Surveyor General

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, March 25, 1916

The foregoing field notes of the survey of the west boundary, retracement of the east and south boundaries, and retracement, resurvey, and survey of the subdivisional lines of Township No. 4 South, Range No. 6 West, of the Salt Lake Base and Meridian, Utah,

executed by John R. Stewart, Robert D. Dalton, and Ralph Gentry under ~~his~~ special instructions dated July 29, 1 special instructions dated April 10, 1913 and supplemental, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the retracements, resurveys and surveys they describe, are hereby approved.

N. C. Thorsen
U. S. 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.

U. S. Surveyor General.

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V

U. S. Surveyor General's Office
JUL 1 1913
SALT LAKE CITY, UTAH.

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISION OF

T. 39 S., R. 26 E.

Of the SALT LAKE BASE AND *Meridian,*

in the State of UTAH

EXECUTED BY

Daniel B. Miller and Jos. C. Thoma

in the capacity of U. S. Surveyors, under instructions dated March 26 *1912,*
and supplemental special instructions dated July 24, 1912,
issued by the United States Surveyor General to govern surveys included in

Group No. 16 *, which were approved by the Commissioner of the General Land*
respectively,
Office April 2 and August 3, *1912, pursuant to authority contained in the Act of*

Congress dated ....., *191*....

Survey commenced October 7, *1912*

Survey completed October 16, *1912*

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INDEX DIAGRAM.

Township 39 South, *Range* 26 East

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SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	Survey commenced October 7, 1912, and executed with a Keuffel & Esser solar transit, No. 20037, for description of which and certificate of test for instrumental errors preliminary to the commencement of the survey of this group, on the meridian at Salt Lake City, see book "A".
	The star and sun were obscured by clouds for several days after the commencement of the surveys in this township, to such an extent as to make it impracticable to await the usual test of the solar apparatus on a Polaris meridian established in the township prior to the commencement of the survey.
	I know that the instrument is in adjustment, from frequent trials on my Polaris meridian in T. 39 S., R. 24 E., the last of which was on Sunday, September 29, both a.m. and p.m. hours.
	October 7: At 9h 48m a.m., l.m.t., I set off 37°22'30" on the lat. arc; 5°32'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 31 and 32, on the S. bdy. of the Tp., heretofore described.
	Thence
	N.0°01'E., bet. secs. 31 and 32,
	Ascending over rolling and broken open mesa surface, through scattering short sagebrush and salt sage.
9.50	Low sandstone ledge, bearing E. and W.; thence over top of mesa.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 24 ins. in stone and earth, in stony surface, for ¼ sec. cor., with brass cap marked
	S 31 ¼ | S 32 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
41.00	Descend into small canon, heading about 20.00 chs. NE.

Chains	
48.00	Foot of descent; draw, dry, course SW.
	Ascend.
52.00	Top of ascent over gently rolling mesa, bearing NE. and SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 29, 30, 31 and 32, with brass cap marked

T 39 S S 30	R 26 E S 29
S 31	S 32

1912

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 slightly broken.

Soil, sandy bench loam, 2nd to 4th rate.

Undergrowth, short, scattering sagebrush and salt sage; fair grazing.

No timber.

On account of irregularity of the south boundary, I run

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

40.00	Set temp. ¼ sec. cor.
79.94	Intersect the W. bdy. of the Tp. 30 lks. S. of the cor. of secs. 25, 30, 31 and 36, heretofore described.

Thence

S.89°47'E., on a true line bet. secs. 30 and 31;

Over slight descent, slightly rolling, open, through scattering sagebrush.

39.97	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

¼
S 30

S 31

1912

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	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.
42.25	Draw, dry, 3 ft. deep, 30 lks. wide, course SE.
	Ascend gradually.
59.00	Over low sandstone ledge, to gently rolling mesa, bearing N. and S.
79.94	The cor. of secs. 29, 30, 31 and 32.
	Land, gently rolling.
	Soil, sandy bench loam, 2nd to 4th rate.
	Undergrowth, short sagebrush; fair grazing.
	No timber.
	N.0°01'E., bet. secs. 29 and 30,
	Over gently rolling mesa, covered with sagebrush, descending slightly.
36.00	Wagon road, bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 30 ¼ | S 29 1912
	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.
60.00	Bottom of low, grassy swale drains SW.; ascend slightly.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 19, 20, 29 and 30, with brass cap marked T 39 S | R 26 E S.19 | S 20 S 30 | S 29 1912
	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.

Chains	
	Land, gently rolling.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, scattering sagebrush, shadscale and bunch grass; good grazing.
	No timber.
	N.89°47'W., on a random line bet. secs. 19 and 30.
40.00	Set temp. ¼ sec. cor.
79.90	Intersect W. bdy. of the Tp., 5 lks. S. of the cor. of secs. 19, 24, 25 and 30, heretofore described.
	Thence
	S.89°45'E., on a true line bet. secs. 19 and 30,
	Over level and gently rolling surface.
5.00	Wagon road bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.
39.95	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 19 ¼ S 30 1912
	Dig pits 18 x 18 x 12 ins., E. and W. of post, 3½ ft. dist., and raise a mound of earth, 3 ft. base, 1½ ft. high, N. of cor.
79.90	The cor. of secs. 19, 20, 29 and 30.
	Land, level and slightly rolling.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, scattering sagebrush and shadscale; good grazing.
	No timber.
	October 7: At this cor. I set off 5°34'N. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°23'30", which is approximately correct.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains

October 7: At 2h 15m p.m., l.m.t., I set off 37°23'30" on the lat. arc; 5°36'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30.

Thence

N.0°01'E., bet. secs. 19 and 20,

Over level and slightly rolling sagebrush mesa, gradually ascending.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 19 ¼	S 20

1912

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. in diam., 24 ins. in the ground, for cor. of secs. 17, 18, 19 and 20, with brass cap marked

T 39 S S 18	R 26 E S 17
S 19	S 20

1912

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

Land, gently rolling.

Soil, sandy bench loam, 1st rate if irrigated.

Undergrowth, scattering sagebrush and salt sage; also cactus.

Good grazing.

No timber.

N.89°45'W., on a random line bet. secs. 18 and 19.

40.00 Set temp. ¼ sec. cor.

79.88 Intersect W. bdy. of the Tp. 14 lks. N. of the cor. of

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SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	secs. 13, 18, 19 and 24, heretofore described.
	Thence
	S.89°51'E., on a true line bet. secs. 18 and 19,
	Over open, level and slightly rolling mesa, through scattering sagebrush and salt sage.
22.40	Wagon road bet. Bluff, Utah, and Dolores, Colo., bears NE. and SW.
39.94	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 18 ¼ S 19 1912 Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
79.88	The cor. of secs. 17, 18, 19 and 20. Land, level and slightly rolling. Soil, sandy bench loam, 1st rate if irrigated. Undergrowth, short, scattering sagebrush and shadscale. Good grazing, bunch grass. No timber.
	N.0°01'E., bet. secs. 17 and 18,
	Over gently rolling mesa, through scattering sagebrush.
31.60	Wagon road bet. Bluff, Utah, and Dolores, Colo., bears NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 18 ¼ | S 17 1912 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.
72.00	Top of general raise, bears NE. and SW.; slight desc.;

Chains

drainage NW.

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 7, 8, 17 and 18, with brass cap marked

T 39 S S 7	R 26 E S 8
S 18	S 17

1912

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

Land, gently rolling.

Soil, sandy bench loam.

Undergrowth, shadscale and sagebrush; good grazing.

No timber.

October 7, 1912.

October 10, 1912: At 9h 00m a.m., the sun being obscured by clouds, at the cor. of secs. 7, 8, 17 and 18, I take up my backsights bet. secs. 17 and 18, and turn off an angle to the W. and run

N.89°51'W., on a random line bet. secs. 7 and 18.

40.00 Set temp. ¼ sec. cor.

79.98 Intersect the W. bdy. of the Tp. 5 lks. N. of the cor. of secs. 7, 12, 13 and 18, heretofore described.

Thence

S.89°53'E., on a true line bet. secs. 7 and 18.

Ascending over broken canon slope.

9.50 Top of ascent bears N. and S.; continue over rolling mesa surface.

39.99 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 7
¼
S 18

1912

Chains

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

79.98 The cor. of secs. 7, 8, 17 and 18.

Land, broken, 9.50 chs.; gently rolling mesa, 70.50 chs.

Soil, sandy bench loam.

Undergrowth, shadscale and sagebrush.

Good grazing on mesa; poor and barren on slope.

No timber.

N.0°01'E., bet. secs. 7 and 8,

Over slightly rolling bench surface, drainage to the W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 7 ¼ | S 8

1912

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. in diam., 24 ins. in the ground, for cor. of secs. 5, 6, 7 and 8, with brass cap marked

T 39 S | R 26 E
S 6 | S 5

S 7 | S 8

1912

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

Land, gently rolling.

Soil, loose sandy bench loam.

Undergrowth, scattering to dense sagebrush; good bunch grass grazing.

No timber.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	October 10, 1912: At the last described cor. I set off 6°43'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°27', which is about correct.
	Thence
	N.89°53'W., on a random line bet. secs. 6 and 7.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect the W. bdy. of the Tp. at the cor. of secs. 1, 6, 7 and 12, heretofore described.
	Thence
	S.89°53'E., on a true line bet. secs. 6 and 7,
	Over broken, stony bench surface, through scattering cedar and pinon pine.
15.50	Descend from bench, over sandstone ledge 20 ft. high and broken slope into canon, bears NE. and SW.
21.00	Foot of descent in canon, draining NE.; ascend.
34.00	Top of ascent; leave canon, over stony surface, bearing NE. and SW.
39.98	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 6 ¼ S 7 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	No trees in limits fit for marking.
60.00	Leave scattering cedar and pinon, over sagebrush mesa, bearing N. and S.
79.96	The cor. of secs. 5, 6, 7 and 8.
	Land, broken and rolling.
	Soil, poor, stony and barren, 64.46 chs.; good bench soil, 15.50 chs.
	Undergrowth, sagebrush.
	Timber, cedar and pinon pine.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains

October 10, 1912.

Daniel B. Miller.

U. S. Surveyor.

October 16: At my camp near the cor. of secs. 3, 4, 9 and 10, at 4h 00m p.m., l.m.t., I set off 37°27' on the lat. arc; 8°59'S. on the decl. arc; and determine a meridian with the solar, setting a hub in line of sight therewith about 5.00 chs. N. of my instrument.

To compare the solar apparatus with a meridian obtained by an observation on Polaris, I examine the instrumental parts to see that there are no level or collimation errors, and, leaving the transit in position, observe Polaris west of the meridian by taking 4 sights thereon, 2 direct and 2 reverse sights, the mean time of which is 6h 25m p.m., l.m.t., marking the point in line of the sight, on a hub driven in the ground opposite the other peg.

L.M.T. of observation, Oct. 16	6h 25m p.m.
U.C.Polaris, Oct. 16	11h 48m p.m.
Hour Angle	5h 23m
Azimuth	1°27.7'

October 17: At 7h 45m I turn off the azimuth 1°27' to the east and find the meridian thus obtained, cuts the meridian obtained by my solar observation yesterday.

At 8h a.m., l.m.t., the sun being obscured by clouds, I could not observe for a.m. solar. The instrument having carried the same a.m. and p.m. solars during the running of the lines in T. 39 S., R. 26 E., I am satisfied it has been in adjustment in all its parts.

Daniel B. Miller

U. S. Surveyor.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	N.0°01'E., on a random line bet. secs. 5 and 6.
40.00	Set temp. ¼ sec. cor.
80.33	Intersect the N. bdy. of the Tp. 33 lks. E. of the cor. of secs. 5, 6, 31 and 32, heretofore described.
	Thence
	S.0°13'E., on a true line bet. secs. 5 and 6.
	Over broken surface, descending a series of ridges and ravines, through scattering cedars and pinon.
32.00	Draw, dry, 20 lks. wide, 2 ft. deep, drains NE.; ascend abruptly on S. slope.
40.33	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 6 ¼ | S 5 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Continue abrupt ascent of S. slope of Cross Canon.
58.50	Ascent becomes gradual.
76.50	Top of ascent, bearing W. and NE.; descend gradually over rolling sagebrush mesa.
80.33	The cor. of secs. 5, 6, 7 and 8.
	Land, broken.
	Soil, stony, poor; surface washed and volcanic.
	Timber, scattering cedar and pinon, scrubby, 80.33 chs.
	Undergrowth, sagebrush.
	October 14, 1912.
	Jos. C. Thoma
	U. S. Surveyor.

October 8: At 8h 18m a.m., l.m.t., I set off 37°22'30" on the lat. arc; 5°52'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 4, 5, 32 and 33, on the S. bdy. of the Tp., heretofore described.

Chains	
	Thence
	N.0°01'E., bet. secs. 32 and 33.
	Over rolling sagebrush mesa, gradually ascending.
12.00	Top of ridge, bearing E. and W.; descend gradually over mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 32 ¼ | S 33 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
44.00	Abrupt descent into canon, over broken slope, bears E. and W.
61.00	Wagon road bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.
62.50	Draw in canon, dry, 40 lks. wide, 2 ft. deep, 100 ft. below abrupt descent, drains SE.; ascend steep, broken E. slope of canon.
70.00	Top of ascent over exposed bedrock, bearing E. and W., 100 ft. above draw.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. firmly in a mound of stone, on bed rock, for the cor. of secs. 28, 29, 32 and 33, with brass cap marked T 39 S | R 26 E S 29 | S 28 S 32 | S 33 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, gently rolling on mesa; broken on canon slopes.
	Soil, sandy bench loam on mesa; 1st rate if irrigated. On canon slopes, soil is poor and stony.
	Sagebrush scattered on mesa; fair grazing. Practically barren on canon slopes.
	Scattering scrub cedar and pinon on N. half of mile.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	West, on a random line bet. secs. 29 and 32.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect the N. and S. line at the cor. of secs. 29, 30, 31 and 32.
	Thence
	East, on a true line bet. secs. 29 and 32.
	Over rolling mesa, through scattering sagebrush, descending gradually.
39.98	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 29 / ¼ / S 32 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
42.00	Descent becomes broken, over low ledges, into draw, draining SE.
50.50	Wagon road bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.
52.00	Over stony point projecting SE.
70.00	Bottom of canon, draining S.; begin steep ascent to mesa point.
74.00	Top of ascent, on mesa point, 100 ft. above canon, over point extending S. 6.00 chs.
77.00	Descend over bed rock bearing N. and S.
79.96	The cor. of secs. 28, 29, 32 and 33.
	Land, gently rolling and broken.
	Soil, sandy bench loam on mesa; fair grazing. On slopes, stony, poor and nearly barren.
	No timber.
	N.0°01'E., bet. secs. 28 and 29,
	Ascending slightly over broken stony surface.
4.00	Leave stony surface, over rolling bench, draining SE., slightly rolling in sagebrush.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 29 ¼ | S 28 1912 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.
42.00	Top of ridge, bearing E. and W.; slight descent.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 20, 21, 28 and 29, with brass cap marked T 39 S | R 26 E S 20 | S 21 S 29 | S 28 1912 Dig pits 18 x 18 x 12 ins. in each sec., 5½ ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.
	Land, gently rolling.
	Soil, sandy bench loam; 1st rate if irrigated.
	Undergrowth, scattering to dense sagebrush.
	Fair grazing of bunch grass.
	Scattering scrub cedar and pinon on S. half mile.
	October 8: At this cor. I set off 5°57'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the instrumental latitude thus appears 37° 24', which is the approximate lat.
	West, on a random line bet. secs. 20 and 29.
	Over gently rolling sagebrush mesa.
40.00	Set temp. ¼ sec. cor.
80.02	Intersect N. and S. line 5 lks. S. of the cor. of secs. 19, 20, 29 and 30.
	Thence
	S.89°58'E., on a true line bet. secs. 20 and 29.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	Over gently rolling mesa, through scattering sagebrush and shadscale.
40.01	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 20 ¼ S 29 1912 Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
80.02	The cor. of secs. 20, 21, 28 and 29. Land, gently rolling. Soil, sandy bench loam; 1st rate if irrigated. Undergrowth, sagebrush and bunch grass; good grazing. No timber.
	N.0°01'E., bet. secs. 20 and 21, Over gently rolling mesa; drainage to the NE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 20 ¼ | S 21 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
51.75	A prehistoric ruin on line. This ruin is of native sandstone, about 9 x 14 ft., the walls of which are standing about 10 ft. high and in a good state of preservation. There is an opening near the bottom 24 x 18 ins., which is the only entrance. This building is on face bed rock on the S. edge of a small canon known as Ruin Canon, course SE. There are two others of a similar description about 3.00 chs. east. One of these is oval shaped, having the appearance of a tower.

Chains

There are several others to the NW. about 20.00 chs. of the same general description. These are at the head of the box canon, at the bottom of which there is a spring.

The canon has a number of demolished, or nearly demolished ruins between the head thereof and a point 6.00 or 8.00 chs. E. of the sec. line.

There was evidently quite a settlement of this prehistoric race at this point, and the buildings appear to have been constructed for defensive purposes.

52.25 Descend into box canon, among squared sandstone remains of razed mesa ruins, bearing E. and W. A small spring about 20 chs. W. drains E.

54.00 Foot of descent; ascend E. side of canon, course SE.

57.00 Top of ascent, bearing E. and W. A badly disintegrated ruin W. of line 25 lks., on canon edge. Over rolling mesa.

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 16, 17, 20 and 21, with brass cap marked

T. 39 S	R. 26 E
S 17	S 16
S 20	S 21

1912

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

Land, gently rolling, broken across canon.

Soil, sandy bench loam; 1st rate if irrigated.

Undergrowth, sagebrush and salt sage.

Good grazing, bunch grass.

No timber.

October 8: At 3h 48m p.m., l.m.t., I set off 37°25' on the lat. arc; 5°59'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	16, 17, 20 and 21.
	Thence
	N.89°58'W., on a random line bet. secs. 17 and 20.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.10	Intersect the N. and S. line 7 lks. S. of the cor. of secs. 17, 18, 19 and 20.
	Thence
	S.89°55'E., on a true line bet. secs. 17 and 20.
	Over gently rolling and level bench surface. Slight descent.
40.05	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked
	S 17 / $\frac{1}{4}$ / S 20 / 1912
	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.
70.00	Top of low ridge, projects about 10.00 chs. S. Descend.
78.00	Draw, dry, 20 lks. wide, 3 ft. deep, drains S. Ascend gradually.
80.10	The cor. of secs. 16, 17, 20 and 21.
	Land, gently rolling.
	Soil, sandy bench loam; 1st. rate if irrigated.
	Undergrowth, short sagebrush and salt sage.
	Good bunch grass grazing.
	No timber.
	October 8, 1912.

October 9: At 8h 03m a.m., l.m.t., I set off 37°25' on the lat. arc; 6°15'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16, 17, 20 and 21.

Thence

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	N.0°01'E., bet. secs. 16 and 17.
	Over gently rolling bench or mesa surface, through scattering sagebrush.
4.50	Draw, dry, 20 lks. wide, 1 ft. deep, draining SW.; thence gradual ascent.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 17 ¼ | S 16 1912 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.
74.30	Wagon road bet. Bluff, Utah, and Dolores, Colo., bears NE. and SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 8, 9, 16 and 17, with brass cap marked T 39 S | R 26 E S 8 | S 9 S 17 | S 16 1912 Dig pits 18 x 18 x 12 ins., in each sec., 5½ ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.
	Land, gently rolling.
	Soil, sandy bench loam; 1st rate if irrigated.
	Undergrowth, sagebrush.
	Good bunch grass grazing.
	No timber.
	N.89°55'W., on a random line bet. secs. 8 and 17.
40.00	Set temp. ¼ sec. cor.
80.18	Intersect the N. and S. line 21 lks. S. of the cor. of secs. 7, 8, 17 and 18.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains

Thence

S.89°46'E., on a true line bet. secs. 8 and 17.

Over gently rolling sagebrush surface.

40.09 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 8
¼
S 17
1912

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

80.18 The cor. of secs. 8, 9, 16 and 17.

Land, gently rolling.

Soil, sandy bench loam; 1st rate if irrigated.

Undergrowth, sagebrush and salt sage.

Good bunch grass grazing.

No timber.

October 9, 1912.

Daniel B. Miller

U. S. Surveyor.

October 12: At 2h 18m p.m., l.m.t., I set off 37°26' on the lat. arc; 7°30'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 8, 9, 16 and 17.

Thence

N.0°01'E., bet. secs. 8 and 9.

Over rolling sagebrush mesa.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 8 ¼ | S 9
1912

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.

Chains

high, W. of cor.

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

T 39 S	R 26 E
S 5	S 4
S 8	S 9

1912

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

Land, gently rolling sagebrush mesa.

Soil, sandy bench loam; 1st rate if irrigated.

Good bunch grass grazing.

No timber.

N.89°46'W., on a random line bet. secs. 5 and 8.

40.00 Set temp. ¼ sec. cor.

80.20 Intersect the N. and S. line 15 lks. S. of the cor. of secs. 5, 6, 7 and 8.

Thence

S.89°40'E., on a true line bet. secs. 5 and 8.

Over rolling sagebrush mesa.

16.00 Old mesa ruin about 5.00 chs. S. of line.

26.25 Descend from mesa into canon, over broken, stony surface, bearing N. and S.

33.00 Foot of descent in bottom of canon, dry, drains N.; heads about 15.00 chs. S.; ascend E. slope of canon.

39.00 Top of ascent over rolling cedar mesa, through scattering scrub cedars, bearing N. and S.

40.10 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

¼
S 5

S 8

1912

Chains	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	No suitable trees for marking in limits.
42.75	Descend from mesa; leave scattering cedars, bearing NW. and SE.; canon heads about 15.00 chs. SE.
56.00	Foot of descent in canon bottom, dry, drains NW.; ascend broken E. slope.
68.00	Top of ascent over rolling sagebrush mesa, bears NW. and SE.
80.20	The cor. of secs. 4, 5, 8 and 9.
	Land, gently rolling mesa and broken canon slopes.
	Soil, sandy bench loam on mesas; stony and poor on slopes.
	Fair grazing on mesas; poor to barren on slopes.
	A few scrub cedar and pinon, scattered in patches.
	Undergrowth, sagebrush.
	October 15, 1912: At the cor. of secs. 4, 5, 8 and 9, I set off 37°27'N. on the lat. arc; 8°37'S. on the decl. arc; and at 3h 16m p.m., l.m.t., determine a meridian with the solar.
	Thence
	N.0°01'E., on a random line bet. secs. 4 and 5.
40.00	Set temp. ¼ sec. cor.
80.88	Intersect the N. bdy. of the Tp., 45 lks. E. of the cor. of secs. 4, 5, 32 and 33, previously described.
	Thence
	S.0°18'E., on a true line bet. secs. 4 and 5.
	Ascend steep broken slope of Cross Canon.
12.90	Top of ascent, and S. rim of canon, 500 ft. above cor., bears E. and W.; continue over rolling mesa covered with dense cedar and pinon timber.
40.88	Set an iron post, 3 ft. long, 1 in. diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

Chains	
	S 5 ¼ | S 4 1912
	from which
	A cedar 12 ins. in diam., bears N.45°30'E., 73 lks. dist., marked ¼ S 4 B T.
	A cedar 15 ins. in diam., bears N.80°W., 18 lks. dist., marked ¼ S 5 B T.
41.00	Top of gradual ascent on top of mesa, bears E. and W.; descend gradually.
52.90	N. edge of canon, bears NW. and SE.; descend abruptly; leave dense timber.
60.90	Draw in bottom of canon, 100 ft. below top, drains NW.; ascend.
67.90	S. edge of canon, 100 ft. above bottom, bears E. and W.; ascend gradually over open rolling sagebrush mesa.
80.88	The cor. of secs. 4, 5, 8 and 9.
	Land, rolling and broken.
	Soil, gravel and stony.
	Undergrowth, sagebrush.
	Timber, scrub cedar and pinon.
	October 15, 1912. Jos. C. Thoma U. S. Surveyor.
	October 8, 1912: At 8h 18m a.m., l.m.t., I set off 37°22'30" on the lat. arc; 5°53'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34, on the S. bdy. of the Tp., heretofore described.
	Thence
	N.0°02'E., bet. secs. 33 and 34.
	In Ruin Canon, over rolling surface covered with salt sage and bunch grass.
20.00	Begin ascent of rocky S. slope of point projecting E.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
30.00	Top of point, projects E.; descend rocky N. slope.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone, for ¼ sec. cor., with brass cap marked

S 33 ¼ | S 34
1912

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

Note: This cor. is on stony ground; impossible to dig into the surface.

46.00	Foot of slope.

Wagon road bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.

48.00	Ascend rocky S. slope of point.
70.00	Top of rocky point, projects E.; descend.
79.00	Coal outcroppings on line.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 27, 28, 33 and 34, with brass cap marked

T 39 S | R 26 E
S 28 | S 27
S 33 | S 34
1912

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

Land, rolling and broken.

Soil, generally stony and poor.

Grazing, scant to barren.

No timber, except an occasional scrub cedar or pinon.

Undergrowth, salt sage and bunch grass.

October 8: At this cor. I set off 5°57'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°23'N.

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

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
40.00	Set temp. ¼ sec. cor.
80.16	Intersect the N. and S. line 24 lks. S. of the cor. of secs. 28, 29, 32 and 33.
	Thence
	S.89°50'E., on a true line bet. secs. 28 and 33.
	Ascending point of ridge, projecting S.
3.00	Top of point projecting S.; descend over a series of unimportant ridges and ravines draining S.
40.08	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 28 / S 33 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
43.00	Point of ridge, projecting S.
48.00	Descend from point, over a series of unimportant ridges and ravines draining S.
67.00	On mesa, covered with scrub cedar and pinon, bearing N. and S.
79.00	Descend E. side of mesa, bearing N. and S.
80.16	The cor. of secs. 27, 28, 33 and 34.
	Land, rolling and broken.
	Soil, poor stony and bad land.
	Timber, scattering scrub cedar and pinon.
	Undergrowth, sagebrush and shadscale.
	Scant grazing.
	East, bet. secs. 27 and 34.
	Descending rocky W. slope of canon, over a series of ridges and ravines.
12.00	Foot of slope, bearing N. and S., across canon bottom surface, through greasewood.
17.00	Wash, 1.00 ch. wide, 3 ft. deep, dry, course S., over greasewood flat.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
22.00	Begin ascent of rocky SE. slope of canon, bearing N. and S., over a series of unimportant ridges and ravines, through scattering cedars.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked ¼ S 27 S 34 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
49.00	Top of mesa, over sandstone ledges, bearing N. and S., 100 ft. above draw; thence over rolling sagebrush mesa.
60.60	Intersect the Utah-Colorado boundary 2.61 chs. S.0°32'W. of the 25th mile cor., heretofore described. At point of intersection, I Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 27 and 34, with brass cap marked COLO UTAH C C S27 S34 T39S R26E 1912 from which A cedar 18 ins. in diam. bears N.66°W., 167 lks. dist., marked T 39 S R 26 E S 27 C C B T. A cedar 15 ins. in diam. bears S.39°W., 199 lks. dist., marked T 39 S R 26 E S 34 B T C C. Land, broken and rolling. Soil, poor and stony. Timber, scattering cedar and pinon pine. Undergrowth, sagebrush, shadscale and greasewood. Scant grazing in canon; balance poor. October 8, 1912.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	October 9: At 9h 20m a.m., l.m.t., I set off 37°23'30" on the lat. arc; 6°17'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 27, 28, 33 and 34.
	Thence
	N.0°02'E., bet. secs. 27 and 28,
	Ascending W. slope of canon, over sandstone ledges.
1.00	Top of mesa bears NE. and SW.; descend gradually through sagebrush and scattering scrub cedar and pinon.
20.00	Leave mesa, bearing NW. and SE.; descend over abrupt S. and W. slope of Ruin Canon, over a series of unimportant ridges and ravines.
32.00	Foot of slope, 80 ft. below top, bears NW. and SE.; descend gradually over canon bottom land.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S ¼ 28	S 27

1912

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

43.00	Wash, 30 lks. wide, 5 ft. deep, dry, course SE.
55.00	Ascend N. and E. slope over rocky surface.
62.00	Coal outcroppings on line, bearing E. and W.
63.00	Top of point of ridge, projecting W., 70 ft. above wash.
65.00	Descend over breaks of canon, draining W.
79.00	Top of mesa, bearing NW. and SE.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in a mound of stone on stony surface, for cor. of secs. 21, 22, 27 and 28, with brass cap marked

T 39 S S 21	R 26 E S 22
S 28	S 27

1912

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

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	Land, broken and rolling.
	Soil, stony, poor and volcanic.
	Undergrowth, sagebrush and greasewood.
	Scant grazing in canon; nearly barren on slopes.
	Timber, scrub cedar and pinon.
	N.89°50'W., on a random line bet. secs. 21 and 28.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect the N. and S. line 13 lks. S. of the cor. of secs. 20, 21, 28 and 29.
	Thence
	S.89°45'E., on a true line bet. secs. 21 and 28.
	Over rolling sagebrush mesa.
20.00	Enter scattering cedar and pinon, bearing NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S ¼ 21 / S 28 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
60.00	Descend from mesa, over broken, stony surface, into Ruin Canon, bearing NW. and S.
69.00	Wash, 30 lks. wide, 3 ft. deep, in Ruin Canon, dry, drains SW.; ascend.
72.00	Cross point of ridge, projecting S., 130 ft. above wash.
74.00	Wash, 20 lks. wide, 3 ft. deep, drains S.; ascend over E. side of canon.
80.00	The cor. of secs. 21, 22, 27 and 28.
	Land, rolling and broken.
	Soil, on mesa, sandy bench loam; in canon, poor, stony and volcanic.
	Sagebrush and fair grazing on mesa; nearly barren on canon slopes.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	Timber, scattering scrub cedar and pinon.
	October 9: Walking on line at noon; unable to observe lat.
	East, bet. secs. 22 and 27,
	Over rolling mesa, through short, scattering sagebrush and scattering scrub cedar and pinon.
4.00	Descend to canon breaks, draining NW.
20.00	Leave same; ascend to mesa, extending from N. to S.
28.00	Descend to canon breaks draining NW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone, in stony ground, for ¼ sec. cor., with brass cap marked $\frac{S\ \frac{1}{4}\ 22}{S\ 27}$ 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
56.00	Leave canon breaks, bearing N. and S.; ascend gradually over mesa.
61.10	Intersect the Utah-Colorado boundary 2.72 chs. S.0°23'W. of the 26th mile cor., heretofore described. At point of intersection, I
	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 22 and 27, with brass cap marked COLO UTAH C C S22 S27 T39S R26E 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling and broken.
	Soil, sandy bench loam on mesas; stony and poor on canon surface; volcanic composition.
	Timber, scattering scrub cedar and pinon.

SUBDIVISION OF T. 39 S., R. 26 E.

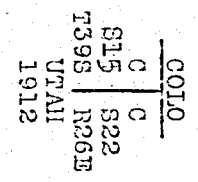
Chains	
	Undergrowth, short sagebrush.
	Little grazing on mesas; very scanty in canons.
	October 9: At 2h 30m p.m., l.m.t., I set off 37°24' on the lat. arc; 6°22'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 21, 22, 27 and 28.
	Thence
	N.0°02'E., bet. secs. 21 and 22,
	Descending N. and E. slope, to Ruin Canon, over a series of ridges and ravines, covered with salt sage and bunch grass.
10.00	Foot of descent, in bottom of canon, bears NE. and SW.; greasewood undergrowth.
13.00	Wash, 20 lks. wide, 3 ft. deep, 110 ft. below sec. cor., drains SW.; begin ascent of N. and W. slope of Keeley Canon.
20.00	Top of mesa, 120 ft. above wash, bears NE. and SW.; ascend gradually over rolling, sagebrush surface.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 21 ¼ | S 22 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
80.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for cor. of secs. 15, 16, 21 and 22, with brass cap marked T 39 S | R 26 E S 16 | S 15 S 21 | S 22 1912 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.

Chains	
	Land, gently rolling on mesa; broken in canon.
	Soil, sandy bench loam on mesa, 1st rate if irrigated; poor and stony in canon, and nearly barren.
	Good bunch grass grazing on mesa; scant vegetation and barren in canon.
	Timber, scattering scrub cedar and pinon along canon.
	October 9, 1912.
	October 12: At 8h 50m a.m., l.m.t., I set off 37°25' on the lat. arc; 7°24'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 15, 16, 21 and 22.
	Thence
	N.89°45'W., on a random line bet. secs. 16 and 21.
40.00	Set temp. ¼ sec. cor.
79.90	Intersect the N. and S. line 15 lks. N. of the cor. of secs. 16, 17, 20 and 21.
	Thence
	S.89°51'E., on a true line bet. secs. 16 and 21.
	Over rolling mesa, ascending slightly.
20.00	Top of mesa ridge, bearing N. and S.; descend gradually.
39.95	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 16 / S 21 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
40.20	Cross head of canon, course S.
42.00	Over same, on mesa.
55.50	Draw, dry, drains S.
79.90	The cor. of secs. 15, 16, 21 and 22.
	Land, rolling and broken.
	Soil, sandy bench loam on mesas; poor, thin and stony

Chains	
	in canon.
	Fair grazing on mesa; scant to barren in canon.
	No timber.
	October 12, 1912.
	October 11: At 8h 30m a.m., l.m.t., I set off 37°25' on the lat. arc; 7°01'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 15, 16, 21 and 22.
	Thence
	East, bet. secs. 15 and 22.
	Descending gradually over sagebrush mesa.
25.50	W. edge of Keeley Canon; descend abruptly.
40.00	Keeley Creek, dry, drains SW.
	Impracticable to set ¼ sec. cor., on account of wash. Cor. not set.
40.50	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for witness cor. to the ¼ sec. cor., with brass cap marked
	WC ¼ S 15 ——— S 22 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
41.50	Ascend through scattering cedar and pinon bearing N. and S.
51.00	E. edge of Keeley Canon; thence over rolling mesa, through sagebrush and bunch grass, bearing N. and S.
61.86	Intersect the Utah-Colorado boundary 269 lks. S.0°28'W. of the 27th mile cor., heretofore described. At point of intersection, I
	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 15 and 22, with brass cap marked

SUBDIVISION OF T. 39 S., R. 26 E.

Chains



Dig pits 24 x 24 x 12 ins., NW. and SW. of the post, 4 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, rolling and broken.

Soil, sandy bench loam on mesas; poor and stony in canon.

Undergrowth, sagebrush and salt sage.

Bunch grass grazing in patches.

Timber, scattering cedar and pinon.

October 11, 1912.

October 12: At the cor. of secs. 15, 16, 21 and 22, I set off 7°28'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°25'.

Thence

N.0°02'E., bet. secs. 15 and 16.

Over gently rolling sagebrush mesa.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S ¼ 16 | S 15
1912

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. in diam., 24 ins. in the ground, for cor. of secs. 9, 10, 15 and 16, with brass cap marked

T 39 S | R 26 E
S 9 | S 10
S 16 | S 15
1912

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	Dig pits 18 x 18 x 12 ins., in each sec., 5½ ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.
	Land, gently rolling.
	Soil, sandy bench loam; 1st rate if irrigated.
	Undergrowth, sagebrush and salt sage.
	Good bunch grass grazing.
	No timber.
	October 12:. At 2h 30m p.m., l.m.t., I set off 37°26' on the lat. arc; 7°30'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 9, 10, 15 and 16.
	Thence
	N.89°51'W., on a random line bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect the N. and S. line at the cor. of secs. 8, 9, 16 and 17.
	Thence
	S.89°51'E., on a true line bet. secs. 9 and 16.
11.00	Wagon road bet. Bluff, Utah, and Dolores, Colo., bears N. and S., general course NE. and SW.
39.98	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 9 / S 16 / 1912
	Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
79.96	The cor. of secs. 9, 10, 15 and 16.
	Land, gently rolling.
	Soil, sandy bench loam.
	Good bunch grass grazing.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	No timber.
	October 12, 1912.
	October 16, 1912: At the cor. of secs. 9, 10, 15 and 16, I set off 37°26'N. on the lat. arc; 8°52'S. on the decl. arc; and at 7h 46m a.m., l.m.t., determine a meridian with the solar.
	Thence
	East, on a true line bet. secs. 10 and 15.
	Descend gradually over rolling land, through sagebrush and grass.
9.00	Start gradual descent, bearing N. and S.
19.00	Descend abruptly, bearing N. and S.
25.50	Draw, 50 lks. wide, 5 ft. deep, drains S.; ascend gradually.
29.00	Point projecting S., 50 ft. above bottom of draw; descend.
31.50	Rock corral about 10 chs. N. of line on W. edge of Keeley Canon. Edge of Keeley Canon bears N. and S.; descend.
33.50	Draw, in bottom of Keeley Canon, 50 lks. wide, 3 ft. deep, drains S., 100 ft. below top; ascend.
35.50	E. edge of Keeley Canon, 100 ft. above bottom, bears N. and S.; ascend gradually over unimportant ridges and ravines, bearing NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 10 / ¼ / S 15 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
46.00	Top of gradual ascent, bearing NE. and SW.; descend gradually over rolling land.

SUBDIVISION OF T. 39 S., R. 26 E.

Chains

56.00 Draw, 50 lks. wide, 5 ft. deep, drains SW.; ascend gradually.

62.61 Intersect the Utah-Colorado boundary 248 lks. S.0°29'W. of the 28th mile cor., heretofore described. At point of intersection, I

Set an iron post, 3 ft. long, 2 ins. in diam., 12 ins. in the ground, in a mound of stone, with brass cap marked

COLO
C | C
S10 | S15
T39S | R26E
UTAH
1912

from which

A cedar 12 ins. in diam. bears N.73°W., 21 lks. dist., marked T 39 S R 26 E S 10 C C B T.

A cedar 10 ins. in diam. bears S.33°W., 41 lks. dist., marked T 39 S R 26 E S 15 C C B T.

Land, broken.

Soil, sandy and stony.

Undergrowth, sagebrush.

Timber, very scattering scrub cedar and pinon in W. half.

October 16, 1912.

October 15, 1912: At 7h 56m a.m., l.m.t., I set off 37°27'N. on the lat. arc; 8°30'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 9, 10, 15 and 16.

Thence

N.0°02'E., on a true line bet. secs. 9 and 10.

Ascend gradually over rolling sagebrush mesa.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

¼
S 9 | S 10
1912

Chains

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.

66.00 Bluff-Dolores Road, bears NE. and SW.

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 3, 4, 9 and 10, with brass

T 39 S	R 26 E
S 4	S 3
S 9	S 10

1912

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

Land, gently rolling.

Soil, light red sandy loam.

Undergrowth, sagebrush.

No timber.

October 15: Sky overcast at noon; observation for lat. impossible.

N.89°51'W., on a random line bet. secs. 4 and 9.

40.00 Set temp. ¼ sec. cor.

79.90 Intersect N. and S. line 14 lks. S. of the cor. of secs. 4, 5, 8 and 9.

Thence

S.89°45'E., on a true line bet. secs. 4 and 9.

Descending gradually over rolling mesa, through sagebrush undergrowth.

39.95 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

¼
S 4
S 9

1912

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

SUBDIVISION OF T. 39 S., R. 26 E.

Chains	
	ft. high, N. of cor.
79.90	The cor. of secs. 3, 4, 9 and 10.
	Land, rolling.
	Soil, light sandy loam.
	Undergrowth, sagebrush.
	No timber.
	October 15, 1912.

October 16, 1912: At the cor. of secs. 3, 4, 9 and 10, I set off 8°57'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°27'.

Thence

East, on a true line bet. secs. 3 and 10,

Descending gradually over rolling sagebrush mesa.

14.00 Small reservoir bears N. 4 chs., and small reservoir bears S. 5 chs.

22.00 Bluff-Dolores road bears NE. and SW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S ¼ 3
S 10
1912

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.

63.25 Intersect the Utah-Colorado boundary 251 lks. S.0°30'W. of the 29th mile post, heretofore described. At point of intersection, I

Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 3 and 10, with brass cap marked

UTAH | T39S R26E S 3 C / S 10 C | COLO
1912

Chains	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, gently rolling.
	Soil, light sandy loam, with bed rock close to surface.
	Undergrowth, sagebrush.
	Timber, very scattering scrub cedar and pinon along State line.
	October 16, 1912: At the cor. of secs. 3, 4, 9 and 10, I set off 37°27'N. on the lat. arc; 8°59'S. on the decl. arc; and at 2h 16m p.m., l.m.t., determine a meridian with the solar.
	Thence
	N.0°02'E., on a random line bet. secs. 3 and 4.
40.00	Set temp. ¼ sec. cor.
81.24	Intersect the N. bdy. of the Tp., 9 lks. E. of the cor. of secs. 3, 4, 33 and 34, heretofore described.
	Thence
	S.0°02'E., on a true line bet. secs. 3 and 4,
	Ascending over broken slope of arm of Cross Canon.
18.30	Top of abrupt ascent and N. edge of mesa, bearing E. and W.; ascend gradually over rolling sagebrush mesa.
41.24	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 4 | S 3 1912
	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, rolling and broken.
	Soil, sandy loam and adobe on slope of canon.
	Undergrowth, sagebrush and shadscale.
	No timber.
	October 16, 1912 Jos. C. Thoma U. S. Surveyor.

GENERAL DESCRIPTION OF T. 39 S., R. 26 E.

Chains

This township is mostly gently rolling mesa, covered with short sagebrush, scattering to dense in patches. The soil on the mesa is sandy bench loam, and would without doubt yield cultivated crops of favorable quantity if irrigated. Ruin Canon, in the southeastern part of the township, is narrow and generally bordered by sandstone ledges on the edges where the mesas break off. There is little soil in the canon or on its slopes. Cross Canon projects into the NW. corner of the township, and its sandstone ledges and broken sides have little vegetation of any kind, except some groves of scrub cedar and pinon. There are a few cedar and pinon pines in groves on the northern part of the mesa.

There is a stock reservoir in the NW. corner of sec. 10 of less than an acre area. This contains stock water, except during very dry periods. There is a small spring in sec. 20 at the head of Ruin Canon.

Coal outcroppings on the canon breaks appear of a slaty character, and the surface indications would not warrant segregation as coal lands.

A well traveled wagon road crosses the southwestern part of the township, general course NW. and SE., between Bluff, Utah, and Cortez, Colorado. Another road, also well traveled, runs through the north-central part of the township, between Bluff, Utah, and Dolores, Colorado, general course NE. and SW.

There are no settlers.

There are quite a number of ruins of prehistoric occupancy in secs. 20 and 21, at the head of Ruin Canon. These are famous throughout this part of Utah and Colorado as the most extensive group, in the best state of preservation of any similar ruins west of the Mesa Verde, near Mancos, Colorado.

In the NW. quarter of sec. 10 is a very old stone

GENERAL DESCRIPTION OF T. 39 S., R. 26 E. (CONT'D)

and earth embankment, said to have been, and apparently was, made by the prehistoric mesa dwellers of this part of the San Juan valley.

At present this township furnishes good stock grazing.

Jos. C. Thoma
U. S. Surveyor.

4—680

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, Daniel B.Miller, U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of Townships 38 and 39 S.R.22 E:,T.36,37,38 and 39 S.R.23 E:,T.39 S.Rgs. 24,25 and 26 E and fractional T.36 S.R.22 E.including the resurveys, retracements and reestablihments,therein.

of the Salt Lake Base and Meridian, in the State of Utah. which are represented in the ~~foregoing~~ field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
C. W. Swan	April 27. 1912	July 15. 1912	Chainman
Fred M. Wright	April 27 1912	October 11. 1912	Chainman
W. A. Bailey	April 27 1912	October 11, 1912	Chainman
John E. Miller	April 27 1912	October 11, 1912	Cornerman
Isaac Hayes	April 27 1912	October 11, 1912	Flagman
Fred Dodson	June 17 1912	October 11, 1912	Axman

Subscribed and certified to before me on the dates of the final service as shown above.

Daniel B. Miller
U. S. Surveyor.

6—2761

FINAL OATH OF UNITED STATES SURVEYOR.

I, Daniel B. Miller, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 26, day of March, 191 3, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of Townships 38 and 39 S.R.22 E.:.T.36,37,38 and 39 S.R.23 E.,T 39 S. Rgs.24,25, and 26 E.and fractional T.36 S.R.22 E.including the resurveys retracements and reestablishments therein.

of the Salt Lake Base and ~~meridian~~ Meridian, in the State of Utah, which are represented in books "A" to "N", "P" to "T" inclusive and book "V" the foregoing field notes as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah. and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Daniel B. Miller
U. S. Surveyor.

Subscribed by said Daniel B. Miller, and sworn to before me this 24" day of June, 1913

John R. Young, Clerk
SUPREME COURT OF THE DISTRICT OF COLUMBIA.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

, 191

The foregoing field notes of the survey of

executed by

under his special instructions dated , 191 , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. 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.

U. S. Surveyor General.

6—2761

4—680

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, Jos. C. Thoma, U. S. Surveyor, during the periods and in the capacities tated opposite our several signatures, in surveying all those parts or portions of Tps. 36, 38 nd 39 S., R. 22 E.; Tps. 36, 37, 38 and 39 S., R. 23 E., and Tp. 39 S., Rgs. 24, 25 and 26 East

f the Salt Lake Base and Meridian, in the State of Utah, hich are represented in the foregoing field notes as having been executed 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 aithfully executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	
W. A. Bailey	April 16, 1912	July 21, 1912	Moundman and Chainman
W. D. Meredith	April 15, 1912	October 14, 1912	Chainman
Ben Knisey	May 24, 1912	" 16 "	Chainman
Walter M. Gavin	April 16, 1912	" 166 "	Flagman
C. R. Hinman	July 22, 1912	" 10 "	Mounman
C. R. Hinman	October 11, 1912	" 16 "	Chainman

Subscribed and certified to before me on the dates of the final service as shown above.

Jos. C. Thoma
U. S. Surveyor.

6—2764

FINAL OATH OF UNITED STATES SURVEYOR.

I, Jos. C. Thoma, U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah, bearing date of the 26th day of March, 1912, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of Group No. 16, including Tps. 36, 38 and 39 S., R. 22 E.; Tps. 36, 37, 38 and 39 S., R. 23 E.; and T. 39 S., Rgs. 24, 25 and 26 East

of the Salt Lake Base and Meridian, in the State of Utah, which are represented in the foregoing field notes in books "A" to "V" inclusive, as having been executed by me, and under my direction; and I do further solemnly swear that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyor General for Utah and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Jos. C. Thoma
U. S. Surveyor.

Subscribed by said Jos. C. Thoma, and sworn to before me this 1st day of July, 1913

Thomas Kell
U. S. Surveyor-General
for Utah.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
Salt Lake City, Utah, March 8, 1916.

The foregoing field notes of the survey of the Subdivisional lines of Township No. 39 South, Range No. 26 East of the Salt Lake Base and Meridian, Utah,

executed by Daniel B. Miller and Joseph C. Thoma under their special instructions dated July 24 ~~his special instructions dated~~ March 26, 1912 and supplemental, 1913, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

M. C. Thoresen
U. S. 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.

U. S. Surveyor General.

6—2761

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Filed July 1, 1913.

4—679

BOOK A-413
Q

FIELD NOTES

OF THE SURVEY OF THE

EAST AND NORTH BOUNDARIES AND

RETRACEMENT AND RESURVEY

OF THE SOUTH BOUNDARY

OF

T. 39 S. R. 24 E.

Of the Salt Lake Base and *Meridian,*

In the State of Utah

EXECUTED BY

Daniel B. Miller and Jos. C. Thoma

In the capacity of U. S. Surveyor s., under instructions dated March 26 *, 1912,*

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

Group No. 16 *, which were approved by the Commissioner of the General Land*

Office, April 2 *, 1912.*

Survey commenced September 7 *, 1912*

Survey completed September 9 *, 1912*

6—151

BOOK A-413

INDEX DIAGRAM.

Township 39 South, *Range* 24 East

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RETRACEMENT AND RESURVEY OF THE S.BDY. T. 39 S.R. 24 E.

Test of instrument used by Daniel B. Miller:

Survey commenced September 7, 1912, and executed with a Keuffel & Esser solar transit No. 20037, with solar attachment, the horizontal limb being provided with two double verniers reading to single minutes of arc, which is also the least count of the verniers of the lat. and decl. arcs.

The instrument was examined and tested by me as Assistant Supervisor of Surveys on the true meridian at Salt Lake City, January 22, 1912, and found correct.

At my camp in the SE ¼ of sec. 13 T. 39 S. R. 24 E., approximate lat. 37°25'N. and long. 109°17'W, May 7th, I examine the adjustments of the transit and correct the level errors, the instrument being in adjustment for collimation, 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 observation on Polaris, I proceed as follows:

At 3h 58m p.m.,l.m.t., I set off 37°25' on the lat. arc, and 5°58'N. on the decl. arc, and determine a meridian and note a point in line therewith in a crevice on a sandstone ledge about two miles N. of my station.

At 8h 26m p.m.,l.m.t., at the same station, I observe Polaris at eastern elongation in accordance with the directions in the Manual and mark the direction thus found, by driving a stake one half inch square in the ground about 5.00 chs. dist. from my transit. I leave the tripods in position and on Sept. 8 at 7h 30m I turn off the azimuth of Polaris 1°28' to the west and find the meridian thus secured falls on the crevice noted as the meridian found by my solar observation yesterday.

Sept. 8, 1912:

At 7h 45m a.m.,l.m.t., with the lat. arc set at 37°25' I set off 5°43'N. on the decl. arc at the same point and find the meridian thus secured falls on the same crevice

which was obtained by the previous observations.

I leave my instrument in position and at intervals during the day extending to late p.m. I find the meridian falls on the same point.

I therefore conclude the instrument is in adjustment in all its parts.

Test for instrument used by Jos. C. Thoma:

Survey commenced Setpember 7, 1912, and executed with Young & Sons light mountain transit No. 8146, with Smith Solar attachment. For description of instrument see book "A" of this Group.

To compare its indications resulting from solar observations made during a.m. and p.m. hours with a meridian determined by observation on Polaris, I proceed as follows:

September 7: At my camp in the SE. ¼ sec. 13, T. 39 S. R. 24 E. approximate lat. 37°25'N. long. 109°17'W., I set off 37°25'N. on the lat. arc, 5°58'N. on the decl. arc, and at 2h 58m p.m., l.m.t., determine the meridian with the solar and note a point in line therewith on a sandstone ledge about 2 miles N. of my station.

September 7, I observe Polaris as follows:

Tel. D.	°	'	"	Watch time H	M	S
Star	1	25	00	7	50	43
Flag	0	00	00			
Star	1	25	00	7	52	35
Flag	0	00	00			
R.						
Star	1	26	00	7	54	25
Flag	0	00	00			
Star	1	26	00	7	55	37
Flag	0	00	00			
Mean	1	25	30	7	53	20
Watch fast l.m.t.					18	20
L.M.T. of observation				7	35	00

U.C.Pol.Sept. 7, 1912 2h 25.3m am
Red. for long. 1.2
2h 24.1

Hour angle of Polaris 6h 45.1m

E. azimuth of Polaris 1°26'00"
Angle E. flag to star 1°25'30"
Flag or pt.on sandstone ledges 2M.N.,brs.N.0°00'30" E.

September 7, 1912.

RETRACEMENT AND RESURVEY OF THE S. BDY. T. 39 S.R. 24 E.

September 8, 1912: At 8h 58m a.m., l.m.t., I set off 37° 25'N. on the lat. arc, 5°42'N. on the decl. arc, and the meridian thus determined coincides with that obtained by observation on Polaris.

Having satisfied myself that part of the S. bdy. of T. 39 S. R. 24 E. is out of limits in measurement, I retrace the N. bdy. of T. 40 S. R. 24 E. as follows:

Sept. 9, 1912: At 9h 57m a.m., l.m.t., I set off 37°22' on the lat. arc and 5°17½'N. on the decl. arc, and determine a meridian at the cor. of Tps. 39 and 40 S. Rs. 23 and 24 E. heretofore described.

Thence

S.89°59'E. retracing bet. secs. 6 and 31.

39.35 The old ¼ sec. cor. bet. secs. 6 and 31; a sandstone 14 x6x8 ins. above surface, firmly set and marked and witnessed as described by the Surveyor General.

79.25 Fall 15 lks. N. of the old cor. of secs. 5, 6, 31 and 32; a sandstone 8x6x12 ins. set loosely in a mound of stone. I reset the same firmly in a mound of stone and earth in stony ground and raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

The course of this half mile is S.89°46'E. and the dist. 39.90 chs.

Continuing on transit line.

117.70 Intersect the old ¼ sec. cor. bet. secs. 5 and 32; a sandstone 10x8x7 ins. above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this half mile is N.89°47'E. and dist. is 38.45 chs.

158.64 Fall 5 lks. S. of the old cor. of secs. 4, 5, 32 and 33; a sandstone 12x16x20 ins. above ground, firmly set and marked and witnessed as described by the surveyor general.

The course of this half mile is N.89°57'E. and dist. is 40.94 chs.

RETRACEMENT OF THE N. BDY. OF T. 40 S. R. 24 E.

Chains	
198.64	I fail to find any trace of the ¼ sec. cor. bet. secs. 4 and 33 after diligent search for several chains in each direction. I set a temporary corner.
237.81	Fall 29 lks. S. of the old cor. of secs. 3, 4, 33 and 34; a sandstone 17x16x14 ins. above ground, firmly set and marked and witnessed as described by the surveyor general.
	The course of this line is N.89°50'E. and dist. is 79.17 chs.
278.31	Fall 95 lks. S. of the old ¼ sec. cor. bet. secs. 3 and 34; a sandstone 15x4x12 ins. loose on the surface. This falling would indicate the cor. is not at the point as originally set.
318.30	Fall 36 lks. S. of the old cor. of secs. 2, 3, 34 and 35; a sandstone 4x12x15 ins. above ground, firmly set and marked and witnessed as described by the surveyor general.
	The course of this mile, disregarding the old ¼ sec. cor. which was subsequently restored, is therefore N.89°58'E. and dist. 80.49 chs.
	September 9, 1912, Daniel B. Miller U.S.Surveyor.

	Sept. 9: At the cor. of secs. 1, 2, 35 and 36, at apparent noon, I set off 5°15'30" on the decl. arc, and observe the sun on the meridian; the resulting lat. is 37°22'30", which is approximately correct.
	Thence
	S.89°59'E. on a retracement line bet. secs. 1 and 36. Ascend abruptly over large boulders.
8.00	Edge of mesa and ledge, 40 ft.high, bears NE. and south. Descend over rolling mesa.
40.22	Fall 1 lk. S. of the ¼ sec. cor. bet. secs. 1 and 36; a sandstone 15x5x8 ins. above surface, firmly set and marked and witnessed as described by the surveyor general.

RETRACEMENT OF THE S.BDY.T. 40 S. R. 24 E.

Chains

The course of this half mile is east and dist. 40.22 chs.

80.44 Fall 21 lks. N. of the cor. of Tps. 39 and 40 S. Rs. 24 and 25 E. The corner stone lay on bed rock 5 lks. N. of a plain base of an old mound of stone, appearing to be at the point for the cor. I reset the stone, a sandstone 20x18x9 ins. marked with 6 grooves on S., E. and W. faces, firmly in a mound of stone on bed rock and raise a mound of stone 2 ft. base, 1½ ft. high S. of the cor.

The course of this half mile is therefore S.89°40'E. and dist. 40.22 chs.

I conclude from the retracement of this line that I should resurvey all that portion west of the corner of secs. 2, 3, 34 and 35, equalizing the distances on S. bdy. of T. 39 S.

I therefore commence at this corner and run S.89°58'W. on true line bet. secs. 3 and 34.

40.00 Set an iron post 3 ft. long, 1 in. in dia., 24 ins. in mound of earth and stone on stony surface, for the ¼ sec. cor. on the S. bdy. of sec. 34, with brass cap marked

$$\frac{\frac{1}{4}\ S\ 34}{1912}$$

raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor., in as much as this corner was found lying loosely on the ground and all indications show that it was not in its original position.

40.25 I re-establish the ¼ sec. cor. for sec. 3 by proportionate measurement as follows:

Set the original stone, a sandstone 15x4x12 ins., 12 ins. in the ground, marked ¼ on N. face, and raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in stone and earth in stony surface, for the cor. of

Chains	
	secs. 33 and 34, with brass cap marked T 39 S | R 24 E S 33 | S 34 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor. Land broken and choppy, S. slope canon surface. Soil bad land, poor 4th rate. No timber and scant vegetation of any kind.
	Thence S.89°58'W. on true line on the S. bdy. of sec. 33. Over broken bad land surface.
.49	The old corner of secs. 3, 4, 33 and 34, which now stands for the cor. of secs. 3 and 4.
	Thence S.89°50'W. with continuous measurement.
13.00	Top of sharp ridge projecting from the N. extending S. Descend.
18.00	Bottom of small canon, course S. Ascend over choppy surface.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in earth and stone for the ¼ sec. cor. for sec. 33, with brass cap marked ¼ S 33 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
40.07½	Set a sandstone 20x7x11 ins. 14 ins. in earth and stone in stony surface, for the ¼ sec. cor. of sec. 4, marked ¼ on N. face, and raise a mound of stone 2 ft. base, 1½ ft. high N. of the corner.
79.66	The old cor. of secs. 4, 5, 32 and 33, now referring to secs. 4 and 5. Thence S.89°57'W. with continuous measurement.

RESURVEY OF PART OF S. BDY. T.39 S. R. 24 E.

Chains	
80.00	Set an iron post 3 ft. long, 3 ins. in diam.,24 ins. in earth for the cor. of secs. 32 and 33, with brass cap marked T 39 S R 24 E S 32 | S 33 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
	Land open broken bad land and stony.
	Soil adobe and stony washed surface, poor 4th rate.
	No timber.
	Scant growth of short sagebrush and greasewood.
	Thence S.89°57'W. on true line bet. secs. 5 and 32.
	Over barren open canon surface, level and rolling.
16.09	Top of red gumbo ridge bearing N. and S., 50 ft. high.
40.00	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. for sec. 32 with brass cap marked ¼ S 32 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
40.60	The old ¼ sec. cor., which now stands for the ¼ sec. cor. of sec. 4.
	Thence S.89°47'W. with continuous measurement.
43.40	Wash 20 lks. wide 3 ft. deep, course N., dry.
	Ascend over steep broken surface.
79.05	The old cor. of secs. 5, 6, 31 and 32, which now stands for the cor. of secs. 5 and 6.
	Thence N.89°46'W. with continuous measurement.
80.00	Set an iron post 3 ft. long, 3 ins. in diam.,24 ins. in the earth for the cor. of secs. 31 and 32 with a brass cap marked

RESURVEY OF PART OF S. BDY. T. 39 S.R.24 E.

Chains

T 39 S R 24 E
S 31 | S 32
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

Land rolling and broken.

Soil stony, poor bad land, 4th rate.

No timber. Scant vegetation.

Thence

N.89°46'W. on true line bet. secs. 6 and 31.

Over N. side of canon slope, over choppy surface.

21.50 Gulch, dry, course NE.

Ascend.

38.95 The old ¼ sec. cor., which now stands for the ¼ sec. cor. of sec. 6.

Thence

N.89°59'W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. of sec. 31, with brass cap marked

¼
S 31
1912

raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.

40.30 Edge of mesa point, projecting from the north to south.

Descend over broken and rolling surface.

46.30 Foot of descent,

Thence over rolling surface.

78.30 The cor. of Tps. 39 and 40 S. Rs. 23 and 24 E., heretofore described.

Land rolling and broken.

Soil poor, sandy and stony, 3rd and 4th rate.

Scant vegetation.

No timber.

September 9, 1912.

EAST BDY. T. 39 S. R. 24 E.

Chains	
	In accordance with the special instructions I begin at the old established corner of townships 39 and 40 S. Rs. 24 and 25 E. and run north on a true line; and the southing of the S. bdy. not being great, and knowing that the N. bdy. would be N.89°53'W., it was concluded best to make the E. bdy. full 480.00 chs., making the E. and W. bdy. the same length; therefore at 480.00 chs. established the cor. of Tps. 38 and 39 S. Rs. 24 and 25 E., having set temp. corners at 40 and 80 chs. from the S.
	From the point for the cor. of Tps. 38 and 39 S. Rs. 24 and 25 E., I run
	West on random line bet. Tps. 38 and 39 S., setting temp. ¼ and sec. corn. at 40 and 80 chs. and at 477.13 chs. I fall 101 lks. S. of the cor. of Tps. 38 and 39 S. Rs. 23 and 24 E.
	The falling therefore answers to 16 5/6 lks. to the mile and the course is S.89°53'E.
	Sept. 10: At 7h 42m a.m.,l.m.t., I set off 37°22'30" on the lat. arc, and 4°57'00"N. on the decl. arc, and determine a meridian at the cor. of Tps. 39 and 40 S. Rs. 24 and 25 E. heretofore described.
	Thence
	North on true line bet. secs. 31 and 36.
	Over open broken surface, on high mesa.
13.00	Descend from mesa over steep side into canon, NW. and SE.
28.00	Head of dry gulch, draining E. Ascend.
36.00	Top of spur, projects E. Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in earth and stone for the ¼ sec. cor. with brass cap marked
	¼ S 36 | S 31
	1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.

EAST BOUNDARY T. 39 S. R. 24 E.

Chains	
64.50	Wash, dry, 3 ft. deep, 40 lks. wide, course N.80°W.
	Thence over rolling and level surface.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for the cor. of secs. 25, 30, 31 and 36, with brass cap marked
	T 39 S R 24 E | R 25 E S 25 | S 30 S 36 | S 31 1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land broken and rolling.
	Soil stony and gravelly, thin poor 4th rate.
	No timber. Scant vegetation.
	September 10, 1912 Daniel B. Miller U.S. Surveyor.
	Sept. 10: At 8h 27m a.m., l.m.t., I set off 37°23'30" on the lat. arc, and 4°56'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 25, 30, 31 and 36, set by D. B. Miller, U.S. Surveyor Sept. 10.
	Thence
	North bet. secs. 25 and 30.
	Over open level and rolling surface in Navajo Canon.
23.00	Ascend N. slope of canon over a series of ridges and ravines bearing NE. and SW.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	S 25 ¼ | S 30 1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
48.00	Top of ridge bearing E. and W.
	Sharp descent over S. and E. slope into Montezuma Canon.

EAST BOUNDARY T. 39 S. R. 24 E.

Chains	
56.00	Foot of ridge bearing NE. and SW.
	Descend gradually.
72.00	Continue on E. slope.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam.,24 ins. in the ground for the corner of secs. 19, 24, 25 and 30, with a brass cap marked

T 39 S
R 24 E | R 25 E
S 24 | S 19
S 25 | S 30
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

Land generally rolling and broken.

Soil in valley, loam.

No timber. No undergrowth.

	North bet. secs. 19 and 24.
	Over barren ascent, S. slope of canon.
	Thence over series of ridges and ravines.
10.00	Top of ridge of east slope of canon and continue over series of ridges and ravines bearing E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼
S 24 | S 19
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

48.00	Begin descent of N. slope of canon over a series of barren ridges and ravines bearing NE. and SW.
63.00	Foot of slope, enter creek flat, covered with greasewood, bears NE. and SW.
75.00	Left bank of Montezuma Creek, 12 ft. high, bears NE. and SW. Continue on creek bed.
80.00	The point for cor. falls in Montezuma Creek bed.
	Impracticable to set the cor. I therefore

EAST BOUNDARY T. 39 S. R. 24 E.

Chains	
	Set an iron post, 3 ft. long, 3 ins. in diam.,24 ins. in the ground,at a point 1 chain East of the true cor. point, for the witness cor. to secs. 13, 18, 19 and 24, with brass cap marked T 39 S R 24 E | R 25 E S 13 | S 18 S 24 | S 19 WC 1912 and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.
	NOTE: Setting this cor. E. instead of north or south made a more permanent cor. as it is established on high land out of reach of floods at high water.
	Land rough and broken.
	Soil adobe
	No. timber. No undergrowth.
	From the point for the cor. I run
	North bet. secs. 13 and 18, in bed of Montezuma Creek.
4.00	The Left bank of Creek, 4 ft. high; thence over creek flat covered with greasewood undergrowth, bears NW. and SE.
10.00	Wash, dry, course W. 50 lks. wide, 3 ft. deep.
20.00	Wagon road between Bluff and Dolores and Cortez Col. bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 13 | ¼ S 18 1912 Dig pits 18x18x12 ins. N. and S. of the post 3 ft.dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.
47.00	Left bank of Montezuma Creek, 4 ft. high, course SW; dry.
51.00	Right bank of Montezuma Creek, course SW. Thence over creek bottom, surface covered with sagebrush and greasewood.

EAST BOUNDARY T. 39 S. R. 24 E.

Chains	
60.00	Ascend S. slope of ridge in canon, bears NE. and SW. Descend.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for the cor. of secs. 7, 12, 13 and 18, with brass cap marked T 39 S R 24 E | R 25 E S 12 | S 7 S 13 | S 18 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land level 56.00 chs.
	Soil 30.00 chs. loam, 20.00 chs. sand and gravelly on slope.
	No timber.
	Undergrowth dense sage and greasewood.
	Sept. 10: At the cor. of secs. 7, 12, 13 and 18, at apparent noon, I set off 4°52'30"N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 37°26', which is approximately correct.
	Thence
	North bet. secs. 7 and 12.
	On ascent of ridge in canon covered with scattering greasewood.
5.00	Top of ridge sloping E. and W.
6.00	Begin descent bearing E. and W.
11.00	Foot of ridge over creek flat, bears E. and W.
22.00	A line of posts for fence NE. and SW. set by James Hamilton.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 12 | S 7 1912 dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.

EAST BOUNDARY T. 39 S. R. 24 E.

Chains

67.00 Begin ascent of broken rocky N. and E. slope of Montezuma Canon bearing NE. and SW., over a series of barren ridges and ravines.

80.00 Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the earth for the cor. of secs. 1, 6, 7 and 12, with a brass cap marked

T 39 S
R 24 E | R 25 E
S 1 | S 6
S 12 | S 7
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

Land rolling and broken.

Soil stony and gravelly on slope, loose loam on flats, 2nd to 4th rate.

No timber.

Undergrowth greasewood.

Thence

North bet. secs. 1 and 6.

On rocky broken N. slope of Montezuma Canon over a series of barren ridges and ravines.

2.00 Top of ascent on rim rock, 50 ft. high, perpendicular. Thence over rolling sagebrush mesa bearing NE. and SW.

40.00 Set an iron post 3 ft. long, 1 in. in dia., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼ S 1 | S 6
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

Sept. 10: At this corner at 2h p.m., l.m.t., I set off 37° 27'30" on the lat. arc, and 4°51'N. on the decl. arc. and determine a meridian.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the earth for the cor. of townships 38 and 39 S. Rs. 24 and 25 E. with brass cap marked

EAST BOUNDARY T. 39 S. R. 24 E.

Chains

T 38 S
R 24 E | R 25 E
S 36 | S 31
S 1 | S 6
T 39 S
1912

raise a mound of stone 2 ft. base, 1½ ft. high S. of the cor.

Land rolling sagebrush mesa.

Soil mesa loam and partly exposed bed rock. No timber.

Short sagebrush undergrowth.

September 10, 1912.

Sept. 9, 1912: At 8h 30m a.m., l.m.t., I set off 37°28' on the lat. arc, and 5°19'N. on the decl. arc, and determine a meridian at the cor. of Tps. 38 and 39 S. Rs. 23 and 24 E.

Thence I run

S.89°53'E. on true line bet. secs. 6 and 31.

Over level sagebrush mesa.

37.13 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼
S 31
S 6
1912

dig pits 18x18x12 ins. E. and W. of the post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.

60.00 Slight descent over rolling mesa, draining E.

75.00 Descend slope to canon, course NE.

77.13 Point for cor. falls in a wash, course NE.

77.63 Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in stone and earth surface for WC to the cor. of secs. 5, 6, 31 and 32, with brass cap marked

WC
T 38 S R 24 E
S 31 | S 32
S 6 | S 5
T 39 S
1912

and raise a mound of stone 3 ft. base, 2 ft. high W. of

NORTH BOUNDARY T. 39 S. R. 24 E.

Chains	
	the cor.
	Land mountainous.
	Soil loam on mesa, barren adobe in canon.
	No timber.
	Undergrowth sagebrush.
	From the true point for the cor. I run S.89°53'E. on true line bet. secs. 5 and 32.
	Ascending barren E. slope of canon, course NE.
1.00	Begin ascent over barren E. slope of canon NE. and SW.
5.00	Begin slight ascent west slope of mesa, over a series of rocky ridges and ravines in scattered scrub cedar, bears N. and S.
12.00	Top of ascent on mesa, enter sagebrush bearing N. and S.
28.00	Begin descent of NE. slope of mesa.
34.00	Cross head of canon, 1 ch. wide, course NE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the earth and stone for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{\frac{1}{4}}{\text{S 32 / S 5}}$ 1912 and raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of the cor.
40.50	Descend west slope of canon.
42.00	Foot of descent in canon. Begin ascent.
45.00	Top of ridge and descent bearing N. and SE.
62.00	Descend over a series of rocky ridges and ravines.
80.00	Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in stone and earth for the cor. of secs. 4, 5, 32 and 33, with brass cap marked T 38 S R 24 E / S 32 | S 33 / S 5 | S 4 / T 39 S / 1912 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of the cor.

NORTH BOUNDARY T. 39 S. R. 24 E.

Chains	
	Land generally broken.
	Soil sandy loam and broken and stony in places, poor.
	Timber scattering scrub cedar and pinon.
	Scant vegetation. Undergrowth short sagebrush.
	Thence
	S.89°53'E. on true line bet. secs. 4 and 33.
	Over a series of ridges and ravines in scattering scrub cedar, descending west slope of Alkali Canon.
22.50	Foot of slope, leave cedars NW. and SE..
	Thence over sand flats; enter sagebrush.
24.50	Wash, dry, in canon, shallow, course E. 3.00 chs. wide.
30.50	Leave wash. Ascend rocky E. slope of Alkali Canon, over a series of ridges and ravines, sloping S.
40.00	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 33 S 4 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
44.00	Enter cedars bearing N. and S.
52.00	Top of ascent, over mesa.
62.00	Begin descent of W. slope, arm of Alkali Canon, over a series of ridges and ravines,bears SE.
74.00	Foot of slope. Wash 50 lks. wide, course SE.
74.50	Begin ascent of rocky E. slope.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam.,24 ins. in the earth for the cor. of secs. 3, 4, 33 and 34, with brass cap marked T 38 S R 24 E S 33 | S 34 S 4 | S 3 T 39 S 1912 and raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

NORTH BOUNDARY T. 39 S. R. 24 E.

Chains

Soil on slopes barren and bad land, in canon sandy loam.

Timber scattered scrub cedars on mesa.

Scant vegetation.

Sept. 9: At the cor. of secs. 3, 4, 33 and 34, at apparent noon, I set off 5°15'30"N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 37°28', which is approximately correct.

Thence

S.89°53'E. on true line bet. secs. 3 and 34.

Over a series of ridges and ravines, sloping S, ascending E. slope of Alkali Canon through scattered scrub cedars.

12.00 Top of ridge sloping S. Descend.

14.00 Cross dry canon, 2.00 chs. wide, course S. Ascend.

16.00 Top of ascent on sagebrush mesa.

29.00 Begin descent of W. slope of canon over series of ridges and ravines draining SW.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked

$$\frac{S\ \overset{\frac{1}{4}}{34}}{S\ 3}$$
1912

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

46.00 Foot of descent. Canon wash 30 lks. wide, dry, course SW.

46.50 Begin ascent of E. slope, over series of ridges and ravines sloping S.

58.00 Top of ascent on mesa.

66.00 Begin descent on W. slope of canon, course S.

77.00 Foot of slope; wash 50 lks. wide, dry, drains S.

78.00 Begin ascent of E. slope of canon.

80.00 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the cor. of secs. 2, 3, 34 and 35, with brass cap marked

NORTH BOUNDARY T. 39 S. R. 24 E.

Chains	
	T 38 S R 24 E S 34 | S 35 S 3 | S 2 T 39 S 1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land mountainous.
	Soil sandy loam on mesa, barren poor 4th rate on slopes.
	Scant vegetation, scattering scrub cedar in patches.
	Thence
	S.89°53'E. on true line bet. secs. 2 and 35.
	Over a series of ridges and ravines, sloping S. through scattering cedars, ascending rocky E. slope of canon.
10.00	Top of ridge projecting S.
14.00	Begin descent of E. slope of ridge.
18.00	Gravel flats bearing N. and S.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 35 S 2 1912
	raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
41.00	Begin descent of W. slope of canon, course S.
43.00	Wash in canon, dry, 30 lks. wide, course S.
44.00	Begin ascent of E. slope of canon over a series of ridges and ravines draining S.
52.00	Top of ridge projecting S.
54.00	Cross head of canon, 15.00 chs. wide, course SW.
69.00	Leave scattering cedars bearing N. and S. Thence over sagebrush surface.
80.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for the cor. of secs. 1, 2, 35 and 36, with brass cap marked

NORTH BOUNDARY T. 39 S. R. 24 E.

Chains

T 38 S R 24 E
S 35 | S 36
S 2 | S 1
T 39 S
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

Land broken on slopes, rolling and level on mesa.

Soil gravelly and stony on slopes, sandy loam on mesa.

Undergrowth short sagebrush.

Timber scattering scrub cedars. Scant vegetation.

At this cor. at 3h p.m.,l.m.t., I set off 37°28' on the lat. arc, and 5°13'N. on the decl. arc, and determine a meridian.

September 9, 1912.

Thence

S.89°53'E. bet. secs. 1 and 36.

Over rolling mesa draining S. and E. and covered with scattering sagebrush and buckthorn undergrowth.

22.00 Wash 30 lks. wide, dry, course south.

40.00 Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼
S 36
S 1
1912

raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.

46.00 Descend from mesa over E. slope.

49.00 Draw, dry, draining S. Begin ascent.

62.00 Top of ascent over mesa.

72.00 Slight descent on E. slope of mesa.

80.00 The cor. of Tps. 38 and 39 S., Rs. 24 and 25 E., heretofore described.

Land rolling and broken.

Soil stony and bare on slopes, bench loam on mesa.

No timber.

Undergrowth scattering short sagebrush. Scant vegetation.

NORTH BOUNDARY T. 39 S. R. 24 E.

September 9, 1912.

Jos. C. Thoma.

U.S.Surveyor.

BDYS. T. 39 S. R. 24 E.

Latitudes, departures and closing errors.

Lines designated	Course	Distance chs.	Latitudes N. chs.	Latitudes S. chs.	Departures E. chs.	Departures W. chs.
South Bdy.	S.89°59'E.	39.35		.01	39.35	
South Bdy.	S.89°46'E.	39.90		.16	39.90	
South Bdy.	N.89°47'E.	38.45	.15		38.45	
South Bdy.	N.89°57'E.	40.94	.03		40.94	
South Bdy.	N.89°50'E.	79.17	.23		79.17	
South Bdy.	N.89°58'E.	80.49	.05		80.49	
South Bdy.	S.89°47'E.	80.00		.30	80.00	
South Bdy.	East	40.22			40.22	
South Bdy.	S.89°40'E.	40.22		.23	40.22	
East Bdy.	North	480.00	480.00			
North Bdy.	N.89°53'W.	477.13	.97			477.13
West Bdy.	South	479.74		479.74		
Convergency						.55
	Totals		481.43	480.44	478.74	477.68
			480.44		477.68	
	Error in lat. and dep.		.99		1.06	

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Page

4—080

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S., R.26 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

U. S. Surveyor.

6—2761

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for ..... bearing date of the ..... day of ....., 191 , I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

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

.....
U. S. Surveyor.

Subscribed by said ....., and sworn to before me this ..... day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
Salt Lake City, Utah, March 8, 191 6.

The foregoing field notes of the survey of the East and North Boundaries and retracement and resurvey of the South Boundary of Township No.39 South, Range No.24 East of the Salt Lake Base and Meridian, Utah

executed by Daniel R.Miller and Joseph C.Thoma
under ~~his~~ their special instructions dated March 26, 1912, having been critically examined, and the necessary corrections and explanations made, ~~the~~ said field notes, and the surveys they describe, are hereby approved.

A C Thoresen
U. S. 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.

.....
U. S. Surveyor General.

6—2761

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Page

BOOK A-413

4—670

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U. S. Surveyor General's Office
JUL 1 1913
SALT LAKE CITY, UTAH

FIELD NOTES

OF THE ~~SURVEY OF THE~~

RETRACEMENT AND RESURVEY OF THE SOUTH BOUNDARY

AND

SURVEY OF THE NORTH AND EAST BOUNDARIES

OF

TOWNSHIP 39 SOUTH, RANGE 25 EAST

Of the SALT LAKE BASE AND *Meridian,*

in the State of UTAH

EXECUTED BY

JOS. C. THOMA

in the capacity of U. S. Surveyor, under instructions dated March 26, 1912, and supplemental special instructions dated July 24, 1912, *issued by the United States Surveyor General to govern surveys included in Group No.* 16, *which were approved by the Commissioner of the General Land Office,* April 2 and August 3, respectively, 1912.

Survey commenced September 17, 1912

Survey completed September 27, 1912

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BOOK A-413

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6-161

RETRACEMENT OF THE S. BDY. OF T. 39 S., R. 25 E.

Chains	
	Survey commenced September 17, 1912, and executed with a Young & Sons light mountain transit, No. 8146, 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 and tested on the true meridian at Salt Lake City, January 20, 1912, by Daniel B. Miller, Assistant Supervisor of Surveys, and reported by him as correct in all its adjustments.
	All measurements were made with a steel tape 4.00 chs. long, which was also tested on the standard at Salt Lake City.
	Note: The survey of this township was made from my camp in sec. 13, T. 39 S., R. 24 E.
	For test of solar apparatus on the Polaris meridian, see book "Q", page 2, September 7, 1912.
	September 17: At 9h 25m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 2°14'N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 39 and 40 S., Rs. 24 and 25 E., heretofore described.
	Thence
	East, retracing the S. bdy. of sec. 31.
39.53	I find no ¼ sec. cor. after diligent search over a wide area in all directions.
79.53	The point for the cor. of secs. 5, 6, 31 and 32. I find no trace of cor. after diligent search.
	East, bet. secs. 5 and 32.
39.47	The old ¼ sec. cor. is S. of this point 50 lks., a sandstone, 8 x 12 x 10 ins. above surface, set in a mound of stone, loosely, with a mound of stone S. I reset the corner firmly in a mound of stone on stone

RETRACEMENT OF THE S. BDY. OF T. 39 S., R. 25 E.

Chains	
	surface, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor., destroying the mound of stone found S.
79.47	I find no trace of the cor. of secs. 4, 5, 32 and 33 after diligent search. I continue
	East on my line bet. secs. 4 and 33.
39.77	Fall 47 lks. N. of the ¼ sec. cor., a sandstone 4 x 6 x 15 ins., properly marked; a mound of stone S.
	I reset the stone firmly in the ground and build a mound of stone, 2 ft. base, 1½ ft. high, N. of the cor. Destroy the old mound of stone.
79.72	Fall 48 lks. N. of the cor. of secs. 3, 4, 33 and 34, a sandstone, 6 x 8 x 18 ins., set firmly in a mound of stone, on stone surface, properly marked, with a mound of stone N. of the cor. I destroy the old mound of stone, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	September 17: At apparent noon I set off 2°11'30" on the decl. arc and observe the sun on the meridian; the obtained lat. is 37°22'30", which is approximately correct.
	I continue my line
	East, on retracement bet. secs. 3 and 34.
39.80	Fall 48 lks. N. of the ¼ sec. cor., a sandstone 6 x 4 x 15 ins., set firmly in a mound of stone on stone surface, properly marked, with a mound of stone S.
	I destroy the old mound of stone and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of the cor.
80.00	I fall 48 lks. N. of the old cor. of secs. 2, 3, 34 and 35, a sandstone, 10 x 4 x 15 ins., properly marked, loose on ground, a scattered mound of stone about.
	I reset the stone in place, firmly in the ground, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of the cor.

RETRACEMENT OF THE S. BDY. OF T. 39 S., R. 25 E.

Chains	
	September 17: At 2h p.m., l.m.t., I set off 37°22'30" on the lat. arc; 2°09'30"N. on the decl. arc; and determine a meridian with the solar at this cor. and find my line agrees with the meridian so secured. September 17, 1912.
	September 18: At 8h 55m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 1°51'30"N. on the decl. arc; and determine a meridian with the solar at a point 49 lks. N. of the cor. of secs. 2, 3, 34 and 35, on the S. bdy.
	Thence
	East on a retracement on line bet. secs. 2 and 35.
39.84	The old ¼ sec. cor. is 48 lks. S. of this point, and is a porphyry stone, 8 x 10 x 12 ins., marked ¼ on N. face, set firmly in a mound of stone, with a mound of stone S.
	I reset the stone firmly in a mound of stone on stone surface, and destroy the mound of stone on the S. and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of the cor.
79.93	The old cor. of secs. 1, 2, 35 and 36 is 50 lks. S. of this point, and is a sandstone, 10 x 10 x 24 ins., loose on the ground, properly marked, and a scattered mound of stone S.
	I reset the corner firmly in the ground, 1 groove on E. and 5 grooves on W. faces, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of the cor.
	I continue my line on retracement, bet. secs. 1 and 36.
40.00	The old ¼ sec. cor. is 48 lks. S. of this point, a porphyry stone, 4 x 6 x 18 ins., loose on the ground, marked ¼ on one face.
	I reset the corner, firmly in the ground, with ¼ on N.

RETRACEMENT OF THE S. BDY. OF T. 39 S., R. 25 E.

Chains	
	face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of the cor.
79.90	Fall 48 lks. N. of the old cor. of T. 39 and 40 S., Rs. 25 and 26, which is a sandstone, 4 x 6 x 14 ins. out of ground, firmly set, and marked and witnessed as described by the surveyor general.
	September 18, 1912.
	Several of the old corners on the S. bdy. of this Tp. are missing; I therefore restore the same as follows:
	September 23: At 8h 5m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 0°05'N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34, rebuilt by me September 17.
	Thence
	N.89°59'W., bet. secs. 4 and 33.
	On ascent of rocky E. slope of Navajo Canon, over a series of barren ridges and ravines.
2.00	Coal outcroppings on line.
26.00	Top of ascent on mesa, draining N.; enter sagebrush and scattering cedars and pinon, bearing NW. and SE.
39.95	Intersect the ¼ sec. cor. rebuilt by me September 17, N.89°59'W.
76.00	Descend rocky ledges and continue over a series of ridges and ravines on barren surface, leaving scattering timber, bearing N. and S.
79.84	I set a sandstone 6 x 8 x 18 ins., 12 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, marked with 2 grooves on W. and 4 grooves on E. sides, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of the cor. Impracticable to set an iron post.
	Land, broken and rolling, 3rd rate.
	Soil, sandy bench loam on mesa; stony and barren on slopes.
	Timber, scattering cedar and pinon, 50.00 chs.

RESTORATION AND RESURVEY OF PART OF S. BDY. T. 39 S., R. 25 E.

Chains	
	Scant vegetation.
	S.89°59'W., bet. secs. 5 and 32.
	Descending barren rocky W. slope of Navajo Canon.
16.00	Wash, draining N., dry.
39.89	The old ¼ sec. cor. rebuilt by me September 17.
	Thence N.89°46'W.
50.00	Begin ascent of SW. slope of canon, over a series of ridges and ravines on barren surface.
79.71	I set a sandstone 10 x 4 x 20 ins., 12 ins. in the ground, for the cor. of secs. 5, 6, 31 and 32, marked with 1 groove on W. and 5 grooves on E. sides, and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of the cor. Impracticable to set an iron post.
	Land, broken and rolling.
	Soil, rocky and barren.
	No vegetation.
	September 23: At apparent noon I set off 0°08'N. on the decl. arc; and observe the sun on the meridian at the cor. of secs. 5, 6, 31 and 32. The latitude so secured is 37°22'30", which is approximately correct.
	Thence
	N.89°46'W., bet. secs. 6 and 31.
	On ascent of rocky, barren W. slope of canon.
8.00	Ascend rocky ledge; enter sagebrush and scattering cedars bearing N. and S.; descend.
12.00	Descend E. slope of canon. Coal outcroppings on line.
20.00	Ravine, dry, draining N.; ascend S. slope of canon.
30.00	Top of slope, bearing N. and S.; descend.
39.82	Set a malpai stone, 4 x 12 x 18 ins., 12 ins. in the ground, for ¼ sec. cor., marked ¼ on N. face, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Impracticable to set iron post.

Chains	
45.00	Outcroppings of coal on line; thence over a series of barren ridges and ravines, ascending.
60.00	Top of ascent over arm of open mesa, bearing N. and S.
66.00	Descend into canon, draining N.
70.00	Enter canon, coal outcroppings on line; thence over open mesa.
79.17	The cor. of Tps. 39 and 40 S., Rs. 24 and 25 E., heretofore described.
	Land, broken,
	Soil, sandy bench loam on mesas; poor, stony and barren on canon slopes; 3rd rate.
	Undergrowth, shadscale.
	No timber.
	September 23, 1912.
	September 18: At 10h 25m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 1°49'30"N. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 39 and 40 S., Rs. 25 and 26 E., heretofore described.
	Thence
	North on line bet. secs. 31 and 36.
	Over rolling sagebrush mesa.
1.00	Cross swale, draining W.
22.00	Ascend rocky ledges to upper mesa, bearing E. and W.; sagebrush becomes heavier.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 36 ¼ | S 31 1912
	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 on E. slope of mesa, draining SE.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins.

Chains

in the ground, for cor. of secs. 25, 30, 31 and 36, with brass cap marked

T 39 S
R 25 E | R 26 E
S 25 | S 30
S 36 | S 31
1912

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

Land, rolling and level mesa.

Soil, sandy bench loam, 1st rate if irrigated.

Short scattering sagebrush.

Fair grazing.

No timber.

September 18: At the cor. of secs. 25, 30, 31 and 36, I set off 1°48'30"N. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 37°22'30", which is nearly correct.

Thence

North, bet. secs. 25 and 30.

Over SE. slope of rolling sagebrush mesa; ascend slightly.

24.00 Top of ascent, on ridge, bears NW. and SE.; descend gradually.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 25 ¼ | S 30
1912

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.

60.00 Wash, dry, 10 lks. wide, 3 ft. deep, course NE.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 19, 24, 25 and 30, with brass cap marked

SURVEY OF THE E. BDY. OF T. 39 S., R. 25 E.

Chains

T 39 S
R 25 E | R 26 E
S 24 | S 19
S 25 | S 30
1912

Dig pits 18 x 18 x 12 ins., in each sec., 6 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, gently rolling.

Soil, sandy bench loam, 1st rate if irrigated.

Undergrowth, scattering to short sagebrush.

Fair grazing.

No timber.

September 18: At this cor., at 2h 15m p.m., l.m.t., I set off 37°24' on the lat. arc; 1°46'N. on the decl. arc; and determine a meridian with the solar.

North, bet. secs. 19 and 24.

Over SE. slope of rolling mesa covered with sagebrush.

2.50 Wagon road, bet. Bluff, Utah, and Cortez, Colo., bears NW. and SE.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 24 ¼ | S 19
1912

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.

68.50 Wagon road, bet. Bluff, Utah, and Dolores, Colo., bears NE. and SW.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 13, 18, 19 and 24, with brass cap marked

T 39 S
R 25 E | R 26 E
S 13 | S 18
S 24 | S 19
1912

Chains

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

Land, rolling and level.

Soil, sandy bench loam, 1st rate if irrigated.

No timber.

Undergrowth, scattering to dense sagebrush.

Fair grazing.

North, bet. secs. 13 and 18.

Over level and rolling mesa, covered with sagebrush.

24.00 Surface becomes rolling, draining NE.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 13 ¼ | S 18

1912

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 the cor.

48.00 Begin descent from mesa on N. slope, bearing NW. and SE.

61.00 Wash, dry, 30 lks. wide, course NW.

61.50 Begin ascent of S. slope of ridge, bearing E. and W.

76.00 Top of ridge, bearing E. and W.; descend N. slope.

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

T 39 S

R 25 E	R 26 E
S 12	S 7
S 13	S 18

1912

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

Land, rolling mesa, 48.00 chs.; broken, 32.00 chs.

Soil, sandy bench loam on mesa, stony and poor on slopes.

Undergrowth, scattering sagebrush; fair grazing on mesa.

SURVEY OF THE E. BDY. OF T. 39 S., R. 25 E.

Chains	
	No timber.
	September 18, 1912.
	September 21: At 9h 45m a.m., l.m.t., I set off 37°26' on the lat. arc; 0°41'N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 12, 13 and 18.
	Thence
	North, bet. secs. 7 and 12.
	Descending N. slope of ridge covered with sagebrush.
1.00	Wash, 30 lks. wide, dry, course W.
1.30	Begin ascent of S. slope of mesa; enter cedars, bearing NW. and SE.
10.00	Top of mesa; thence over rolling mesa bearing NW. and SE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 12 ¼ | S 7 1912 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.
72.00	Begin descent of SE. slope of canon bearing NE. and SW.
74.00	Coal outcroppings on line.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 1, 6, 7 and 12, with brass cap marked T 39 S R 25 E | R 26 E S 1 | S 6 S 12 | S 7 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling on mesas, broken on slopes.
	Soil, sandy bench loam on mesas, stony and poor on slopes.

SURVEY OF THE E. BDY. OF T. 39 S., R. 25 E.

Chains	
	Timber, scattering scrub cedar and pinon.
	Scant grazing on slopes, fair on mesas.
	North, bet. secs. 1 and 6.
	Over a series of ridges and ravines, descending SE. slope of canon, through scattering cedar and pinon and scattering sagebrush.
20.00	Ascend rocky ridge bearing E. and W.
25.00	Top of ridge. Descend over broken surface to canon.
28.00	Wash in canon, dry, 20 lks. wide, course W.
32.00	Continue on W. slope of canon.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 1 ¼ | S 6 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
42.50	S. edge of an arm of canon bearing NE. and SW.; descend.
44.50	N. edge of same canon, course SW.; ascend S. slope of ridge.
64.00	Top of ridge, bearing E. and W.; descend S. slope of Cross Canon, over a series of ridges and ravines.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for the cor. of Tps. 38 and 39 S., Rs. 25 and 26 E., with brass cap marked T 38 S R 25 E | R 26 E S 36 | S 31 S 1 | S 6 R 25 E | R 26 E T 39 S 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, S. of cor.
	Land, generally broken,
	Soil, mostly barren and stony, washed canon side; poor, 3rd and 4th rate.

SURVEY OF THE E. BDY. OF T. 39 S., R. 25 E.

Chains	
	Scattering clumps of scrub cedar and pinon.
	Undergrowth, shadscale and greasewood; poor grazing.
	September 21, 1912.
	September 27: At 8h 30m a.m., l.m.t., I set off 37°27' 30" on the lat. arc; 1°38'S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 38 and 39 S., Rs. 25 and 26 E., set by me September 21.
	Thence
	West, on a random line bet. Tps. 38 and 39, setting temp. ¼ sec. and sec. cors. at 40.00 and 80.00 chs., and at 478.12 chs. I fall 51 lks. N. of the cor. of Tps. 38 and 39 S., Rs. 24 and 25 E., heretofore described.
	This falling answers to a return course of N.89°56'E. nearly.
	Thence
	N.89°56'E., on a true line bet. secs. 6 and 31,
	Descending from high mesa to Montezuma Canon.
2.00	Descend perpendicular sandstone rim rock 90 ft.; thence steep descent over a series of barren, stony ridges bearing NW. and S., and ravines draining S.
32.00	Foot of descent over creek flats in greasewood undergrowth bearing NW. and S.; loose sandy loam.
38.12	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 31 / ¼ / S 6 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
44.00	Right bank of Montezuma Creek, 3 ft. deep, over dry creek bed, course SE.
45.00	Left bank of creek, 3 ft. high; an occasional cottonwood

SURVEY OF THE N. BDY. OF T. 39 S., R. 25 E.

Chains	
	tree on creek banks; thence over greasewood flat.
55.00	A small irrigation ditch draining S.; ascend W. slope of knoll.
69.00	Top of knoll; descend E. side.
76.00	Foot of descent, bearing NE. and SW.; thence over barren broken surface.
78.12	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 5, 6, 31 and 32, with brass cap marked

T 38 S | R 25 E
S 31 | S 32

S 6 | S 5
T 39 S
1912

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

Land, level on creek flats, broken on slopes.

Soil, loose sand on flats; poor, stony and barren on slopes.

Heavy growth of greasewood on creek flats, and an occasional cottonwood tree on banks of creek.

N.89°56'E., bet. secs. 5 and 32.

Over rolling creek flats.

18.00	Begin ascent of E. side of canon, bearing N. and S.
22.00	Top of ascent. Brush fence bears N. and S.; descend E. slope.
28.00	Foot of slope, over canon flat.
32.00	W. side of CrossCanon, wash, dry, course S.
35.00	E. side of wash, over greasewood flats.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 32
¼

S 5
1912

Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft.

Chains

dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, with brass cap marked

T 38 S	R 25 E
S 32	S 33
S 5	S 4

T 39 S.
1912

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

Land, level and gently rolling on flats; broken on slopes.

Soil, loose, sandy alluvial in canon flats; poor, washed and stony on slopes.

Heavy greasewood in patches on flats; little other vegetation.

No timber.

N.89°56'E., bet. secs. 4 and 33.

Over creek flat covered with greasewood.

5.00 Foot of ascent; thence ascend abruptly over sandstone ledges bearing N. and S.

9.00 Top of ascent of ridge sloping S.; thence ascend abruptly over broken, stony surface, bearing N. and S.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 33
¼
S 4
1912

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

40.40 Sandstone rim rock, 70 ft. high, perpendicular; thence over mesa, scrub cedar and pinon bearing N. and S.

58.00 Descend from mesa, over slope of Cross Canon, bearing

SURVEY OF THE N. BDY. OF T. 39 S., R. 25 E.

Chains	
	N. and S., surface broken and rolling, through scattering shadscale and grassy plats.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 3, 4, 33 and 34, with brass cap marked

T 38 S | R 25 E
S 33 | S 34
S 4 | S 3
T 39 S
1912

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

Land, rolling and broken.

Soil, loose sandy loam on flats, poor and covered with volcanic stone on slopes; 3rd rate.

Undergrowth, greasewood.

Timber, scattering scrub cedar and pinon.

September 27: At 2h p.m., l.m.t., I set off 37°27'30" on the lat. arc; 1°44'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34.

Thence

N.89°56'E., bet. secs. 3 and 34.

Chains	
	Descending over broken surface.
9.00	Draw, dry, course NW.
13.00	Over same draw; thence over rolling ground.
35.00	Ascend barren, rocky ridge, bearing NW. and SE.
39.00	Top of ascent over barren, rocky ridge.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 34
¼
S 3
1912

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

SURVEY OF N. BDY. OF T. 39 S., R. 25 E.

Chains

48.00 Foot of descent; thence over broken surface draining N.

64.00 Begin abrupt ascent of stony, broken E. slope of arm of canon leading to the N.

70.00 Top of ascent; thence descend S. slope of ridge covered with salt sage and grass and strewn with boulders.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 2, 3, 34 and 35, with brass cap marked

T 38 S S 34	R 25 E S 35
S 3	S 2

T 39 S
1912

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

Land, broken and rolling.

Soil, barren; surface covered with volcanic stone.

Scant vegetation.

No timber.

N.89°56'E., bet. secs. 2 and 35.

Ascending S. slope of ridge.

11.00 Top of ridge, bearing N. and S.; descend NE. slope over large boulders.

36.00 Enter scattering cedar and pinon bearing N. and S.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 35
¼
S 2
1912

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

41.00 Over rocky ledges on ridge, bearing N. and S.

60.00 Leave scattering cedar and pinon, bearing N. and S.

70.00 Wash, 50 lks. wide, drains NW.

72.50 Begin ascent of W. slope of ridge; Indian trail bears

SURVEY OF THE N. BDY. OF T. 39 S., R. 25 E.

Chains	
	N. and S.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 1, 2, 35 and 36, with brass cap marked T 38 S | R 25 E S 35 | S 36 S 2 | S 1 T 39 S 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken.
	Soil, poor, covered with volcanic stone; 4th rate.
	Scant vegetation.
	Scattering cedar and pinon, 32.00 chs.
	N.89°56'E., bet. secs. 1 and 36,
	Ascending over broken, stony surface.
7.00	Top of ridge, bearing NW. and SE.; thence descend over a series of ridges and ravines.
16.00	Foot of descent.
24.00	Draw, dry, draining SW.; thence ascend NW. slope.
27.00	Top of ascent, bearing N. and S.; thence over a series of ridges and ravines.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 36 ¼ S 1 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
54.00	Top of ascent, bearing N. and S.; descend.
62.00	Draw, dry, draining N.; ascend.
68.00	Top of ascent, bearing N. and S.; descend S. slope of Cross Canon, over surface covered with salt sage and short grass strewn with malpai rock.

SURVEY OF N. BDY. OF T. 39 S., R. 25 E.

Chains	
80.00	The cor. of Tps. 38 and 39 S., Rs. 25 and 26 E., heretofore described.
	Land, broken.
	Soil, poor, stony; 4th rate.
	Generally scant grazing; short bunch grass in patches.
	No timber.
	September 27, 1912.

BOUNDARIES OF T. 39 S., R. 25 E.

Latitudes, Departures and Closing Errors.

Lines Designated	True Course	Dist.	Latitudes N.	Latitudes S.	Departures E.	Departures W.
		Chs.	Chs.	Chs.	Chs.	Chs.
S.Bdy.Sec.31	S.89°46'E.	79.17	.....	.32	79.17	.....
S.Bdy.Sec.32	S.89°46'E.	39.82	.....	.16	39.82	.....
S.Bdy.Sec.32	N.89°59'E.	39.89	.01	.....	39.89	.....
S.Bdy.Sec.33	N.89°59'E.	39.89	.01	.....	39.89	.....
S.Bdy.Sec.33	S.89°59'E.	39.95	.....	.01	39.95	.....
S.Bdy.Sec.34	East	80.00	.....	.....	80.00	.....
S.Bdy.Sec.35	East	79.93	.....	.....	79.93	.....
S.Bdy.Sec.36	East	79.90	.....	.....	79.90	.....
E.Bdy.Tp.	North	480.00	480.00	.....	.....	.....
N.Bdy.Tp.	S.89°56'W.	478.12	.....	.55	.....	478.12
W.Bdy.Tp.	South	480.00	.....	480.00	.....	.....
Convergency						.55
	Totals		480.02	481.04 480.02	478.55	478.67 478.55
	Errors in lat. and dep.			1.02		.12

Jos. C. Thoma
U. S. Surveyor.

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S., R.26 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

6—2764

U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuan
of special instructions received from the U. S. Surveyor General for .....
bearing date of the ..... day of ....., 191 , I have well, faithfully, and trul
in my own proper person, and in strict conformity with said instructions, the Manual of Surveyi
Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oath of U.S.Surveyor see book "V" T.39 S., R.26 E.

..... of the .....
..... Meridian, in the State of ....., which are represented
the foregoing field notes as having been executed by me, and under my direction; and I do furth
solemnly swear that all the corners of said survey have been established and perpetuated in strict accor
ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Survey
General for ..... and in the specific manner described in the field notes, and th
the foregoing are the original field notes of such survey.

.....
U. S. Surveyor.

Subscribed by said ....., and sworn to before me
this ..... day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, March 8 191 6

The foregoing field notes of the ~~xxxxxx~~ retracement and resurvey of the South Boundary and survey of the North and East Boundaries of Township No.39 South, Range No.25 East of the Salt Lake Base and Meridian, Utah,

executed by Joseph C.Thome
~~special instructions dated July 24, 1912~~
under his special instructions dated March 26, 1912, and supplemental~~s~~, having bee
critically examined, and the necessary corrections and explanations made, the said field notes, and th
surveys they describe, are hereby approved.

.....
U. S. 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.

.....
U. S. Surveyor General.

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BOOK A-413

I

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISION OF

T. 39 S., R. 25 E.

Of the SALT LAKE BASE AND *Meridian,*

the State of U T A H

EXECUTED BY

DANIEL B. MILLER AND JOS. C. THOMA

*the capacity of U. S. Surveyor*s, *under instructions dated* March 26, *191*2,
supplemental special instructions dated July 24, 1912,
ed by the United States Surveyor General to govern surveys included in

up No. 16, *which were approved by the Commissioner of the General Land*
respectively,
ce, April 2 and August 3, *1912.*

Survey commenced September 19, *191*2

Survey completed October 2, *191*2

6—151

BOOK A-413

INDEX DIAGRAM.

Township 39 South, *Range* 25 East

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SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	For description of instrument and test of same on true meridian, prior to the commencement of the surveys under this group, and test of instrument on a Polaris meridian at the commencement of the survey of this township, see book "Q", page 2.
	September 19, 1912: At 8h 30m a.m., l.m.t., I set off 37°22'30" on the lat. arc; 1°29'N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1, 2, 35 and 36, on the S. bdy. of the Tp., heretofore described.
	Thence
	N.0°01'W., bet. secs. 35 and 36.
	Over rolling sagebrush mesa, draining south.
12.00	Ascend rocky ledges to upper mesa, bearing E. and W.
14.00	Coal outcroppings on line.
16.00	Top of mesa, draining NW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 35 ¼ | S 36 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
41.00	Cross a shallow swale, dry, draining SW.
44.00	Coal outcroppings on line.
60.00	Wash, dry, in swale 30 lks. wide, course SW.; ascend.
68.00	Top of rim rock ledge, bearing E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 25, 26, 35 and 36, with brass cap marked T 39 S | R 25 E S 26 | S 25 S 35 | S 36 1912 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, rolling, and broken ledges.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Soil, sandy bench loam, 1st rate if irrigated; broken ledges, 3rd and 4th rate.
	Undergrowth, sagebrush.
	Grazing, fair to good.
	No timber.
	East, on a random line bet. secs. 25 and 36.
40.00	Set temp. ¼ sec. cor.
79.72	Intersect the E. bdy. of the Tp. 6 lks. N. of the cor. of secs. 25, 30, 31 and 36, heretofore described.
	Thence
	N.89°57'W., on a true line bet. secs. 25 and 36.
	Ascending E. slope of mesa.
7.75	Top of ascent, on mesa, bears NE. and SW.
19.75	Top of mesa ridge, bearing NE. and SW.; descend over slope draining SW.
39.86	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 25 / S 36 / 1912
	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.
65.75	Top of mesa ridge, bearing NE. and SW. Descend.
79.72	The cor. of secs. 25, 26, 35 and 36.
	Land, rolling mesa.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, scattering to dense sagebrush.
	Fair to good grazing.
	No timber.
	September 19: Walking on line at noon; unable to observe sun for latitude.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	N.0°01'W., bet. secs. 25 and 26,
	Over rolling sagebrush mesa draining SW.
10.00	Enter grassy swale 10 chs. wide, draining SW.
32.00	Descend N. slope of mesa, bearing NW. and NE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 26 ¼ | S 25 1912 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.
60.00	Descend into Navajo Canon, over broken, rocky slope, bearing E. and W.
62.00	Wash in canon, dry, 30 lks. wide, course W.; ascend N. slope.
64.00	Coal outcroppings on line.
66.00	Top of ascent, on mesa, bearing E. and W.; thence over gradually rolling surface.
79.00	Begin descent of N. slope of mesa, bearing E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 23, 24, 25 and 26, with brass cap marked T 39 S | R 25 E S 23 | S 24 S 26 | S 25 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, level bench and broken slopes.
	Soil, sandy bench loam on mesa; poor and stony on slopes.
	Fair grazing on mesa; little vegetation on slopes.
	No timber.

September 19: At the last described cor., at 2h 10m

Chains	
	p.m., l.m.t., I set off 37°24' on the lat. arc; 1°23' N. on the decl. arc; and determine a meridian with the solar.
	Thence
	S.89°57'E., on a random line bet. secs. 24 and 25.
40.00	Set temp. ¼ sec. cor.
79.79	Intersect E. bdy. of Tp. 10 lks. N. of the cor. of secs. 19, 24, 25 and 30, heretofore described.
	Thence
	N.89°53'W., on a true line bet. secs. 24 and 25,
	Over rolling sagebrush mesa.
39.89½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 24 / S 25 / 1912
	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.
75.75	Descend NW. slope of mesa, bearing NE. and SW.
79.79	The cor. of secs. 23, 24, 25 and 26.
	Land, generally rolling mesa.
	Soil, bench loam.
	Undergrowth, sagebrush.
	Fair grazing.
	No timber.
	September 19, 1912.
	September 20: At 8h a.m., l.m.t., I set off 37°24' on the lat. arc; 1°06'30"N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 23, 24, 25 and 26.
	Thence:
	N.0°01'W., bet. secs. 23 and 24.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Descending over N. slope of mesa; through undergrowth of sagebrush.
8.00	Descend into canon, course W.
14.00	N. side of canon; thence over sagebrush mesa, bearing E. and W.
18.50	Descend into Navajo Canon over broken surface, bearing NE. and SW.; coal outcroppings on line.
22.50	Wash in canon, dry, 50 lks. wide, course W.; ascend.
26.50	Top of ascent on N. side of canon; begin ascent of S. slope of mesa, bearing NE. and SW.
30.00	Enter scattering cedar and pinon, bearing NE. ans SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 23 ¼ | S 24 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
56.50	Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo., bears E. and W.
60.00	Top of ascent, on mesa, bearing NW. and S.; thence over rolling mesa.
64.00	S. side of break, course SW.
68.00	Over same, on sagebrush mesa, bearing NW. and S.
76.00	Descend N. slope of mesa, over broken surface, bearing NE. and SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 13, 14, 23 and 24, with brass cap marked T 39 S | R 25 E S 14 | S 13 S 23 | S 24 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken and rolling.
	Soil, sandy bench loam on mesas; fair grazing. Poor,

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	stony and barren on slopes and in canon.
	Undergrowth, sagebrush.
	An occasional clump of scattering cedar and pinon.
	S.89°53'E., on a random line bet. secs. 13 and 24.
40.00	Set temp. ¼ sec. cor.
79.98	Intersect E. bdy. of Tp. 1 lk. N. of the cor. of secs. 13, 18, 19 and 24, heretofore described.
	Thence
	N.89°53'W., on a true line bet. secs. 13 and 24.
	Over rolling sagebrush mesa.
39.50	Wash, 10 lks. wide, dry, course SW.
39.99	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 13 / S 24
	1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
72.00	Enter scattering cedar and pinon, bearing NE. and SW.
78.00	Descend from mesa, through scattering sagebrush and scrub timber, bearing N. and S.
79.98	The cor. of secs. 13, 14, 23 and 24.
	Land, generally rolling mesa.
	Soil, sandy bench loam, 1st rate if irrigated.
	Fair to good grazing.
	Undergrowth, sagebrush.
	Scattering scrub cedar and pinon, 8.00 chs.
	September 20: At this cor. I set off 1°02'N. on the decl. arc; and at apparent noon observe the sun on the meridian; the lat. observed is 37°25', which is nearly correct.
	N.0°01'W., bet. secs. 13 and 14.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Descending N. slope of mesa, through scattering scrub cedar and pinon pine and undergrowth of sagebrush.
.50	Draw, dry, course W.; thence begin ascent of S. slope of mesa.
3.00	Top of ascent; thence over rolling mesa, sloping SW.
31.00	Cross arm of Black Steer Park, a grassy plat, ascending slightly, bearing NE. and SW.
35.00	Brush stock corral 50 lks. W.
40.00	Top of rocky ridge bearing NW. and SE.; leave park.
	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone on stone base, for ¼ sec. cor., with brass cap marked S 14 ¼ | S 13 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Continue N. on S. slope of mesa.
46.00	Cross swale, dry, draining SW.; thence over grassy, smooth surface.
64.00	Top of rise from swale, bearing NW. and SE.; thence over rolling sagebrush mesa.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 11, 12, 13 and 14, with brass cap marked T 39 S | R 25 E S 11 | S 12 S 14 | S 13 1912 Dig pits 18 x 18 x 12 ins., in each sec., 5½ ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.
	Land, gently rolling.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, sagebrush.
	Fair to good grazing.
	Timber, cedar and pinon pine.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	September 20: At this cor., at 2h p.m., l.m.t., I set off 37°26' on the lat. arc; 1°00'N. on the decl. arc; and determine a meridian with the solar.
	S.89°53'E., on a random line bet. secs. 12 and 13.
40.00	Set temp. ¼ sec. cor.
79.89	Intersect E. bdy. of Tp. 9 lks. S. of the cor. of secs. 7, 12, 13 and 18, heretofore described.
	Thence
	N.89°57'W., on a true line bet. secs. 12 and 13.
	Over rolling and broken W. slope of mesa.
6.00	Descend over ledges, bearing NW. and SE.
8.00	Foot of descent along N. slope, bearing NW. and SE.; thence over broken canon surface.
8.50	Wash, dry, 30 lks. wide, 3 ft. deep, course N.
39.00	Wash, dry, 30 lks. wide, 3 ft. deep, course N.
39.94½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone on stone surface, for ¼ sec. cor., with brass cap marked ¼ S 12 / S 13 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Continue over rolling N. slope, draining NE.
64.00	Foot of descent, bearing NW. and SE.; thence ascend over E. slope of mesa.
66.00	Top of ascent, 50 ft. above foot of descent; thence over level sagebrush mesa.
79.89	The cor. of secs. 11, 12, 13 and 14.
	Land, rolling and broken on slopes.
	Soil, poor and stony on slopes, 4th rate; sandy bench loam on mesas.
	Undergrowth, sagebrush. Scant vegetation.
	Timber, scattering scrub cedar and pinon.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	September 20, 1912.
	September 21: At 9h a.m., l.m.t., I set off 37°20' on the lat. arc; 0°42'N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 11, 12, 13 and 14.
	Thence
	N.0°01'W., bet. secs. 11 and 12.
	Over rolling mesa covered with sagebrush.
20.00	Descend NE. slope of mesa.
24.00	Foot of slope, bearing NW. and SE.; thence over rolling E. slope.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 11 ¼ | S 12 1912 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 ascent of S. slope of ridge, bearing NE. and SW.
46.00	Top of ridge, bearing E. and W.; descend.
48.00	Descend N. slope of ridge, bearing NW. and SE.
59.50	Wash, dry, 30 lks. wide, 5 ft. deep, course NE.
60.00	Begin ascent of S. slope of ridge, bearing NE. and SW.
68.00	Coal outcroppings on line, bearing NE. and SW.
73.00	Top of ridge, bearing NE. and SW.; descend into canon.
78.00	Coal outcroppings on line.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. firmly in a mound of stone on stone base, for cor. of secs. 1, 2, 11 and 12, with brass cap marked T 39 S | R 25 E S 2 | S 1 S 11 | S 12 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Land, rolling and broken.
	Soil, sandy bench loam and poor, stony, 4th rate.
	Undergrowth, scattering sagebrush.
	Fair grazing in patches.
	No timber.
	September 21: Walking on line at noon; unable to observe sun for lat.
	S.89°57'E., on a random line bet. secs. 1 and 12.
40.00	Set temp. ¼ sec. cor.
79.88	Intersect E. bdy. of Tp. 3 lks. S. of the cor. of secs. 1, 6, 7 and 12, heretofore described.
	Thence
	N.89°58'W., on a true line bet. secs. 1 and 12,
	Descending over broken canon sides.
2.50	Wash, 20 lks. wide, dry, course N.; ascend E. slope of mesa.
8.00	Coal outcroppings on line bear N. and S.
9.00	Top of ascent, bearing N. and S.; thence over sagebrush mesa.
24.00	Descend from mesa, bearing N. and S., over broken surface.
26.00	Coal outcroppings on line, bearing N. and S.
39.94	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone on stone base, for ¼ sec. cor., with brass cap marked
	S ¼ 1 / S 12 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
49.00	Foot of descent, bearing N. and S.
50.00	Canon wash, dry, 50 lks. wide, course N.
79.88	The cor. of secs. 1, 2, 11 and 12.
	Land, generally rolling and broken.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains

Soil, generally poor and stony.

Undergrowth, scattering sagebrush.

Scant grazing.

No timber.

September 21, 1912.

September 30: At 3h p.m., l.m.t., I set off 37°27' on the lat. arc; 2°54'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1, 2, 11 and 12.

Thence

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

40.00 Set temp. ¼ sec. cor.

80.00 Intersect N. bdy. of Tp. 15 lks. E. of the cor. of secs. 1, 2, 35 and 36, heretofore described.

Thence

S.0°07'E., on a true line bet. secs. 1 and 2,

Descending broken N. slope of canon.

20.50 Wash in canon, 50 lks. wide, dry, drains NW.

24.00 Ascend from canon over a series of ridges and washes bearing NW. and SE.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 2 ¼ | S 1

1912

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

64.00 Enter scattering scrub cedar and pinon.

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

Land, broken.

Soil, poor, stony and barren.

Undergrowth, shadscale.

Scant grazing.

Timber, scrub cedar and pinon.

September 30, 1912.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains

The survey of the subdivisional lines of this township was commenced by me on September 19, 1912, and executed with a Young & Sons light mountain transit, No. 8146, with Smith solar attachment. For description of instrument see book "A" of this group.

All lines run in this township were made from the camp in sec. 13, T. 39 S., R. 24 E., where I established a Polaris meridian on September 7, and tested the solar attachment thereon. For record of meridian and tests, see book "Q", page 2.

September 22, 1912: At my camp in sec. 13, T. 39 S., R. 24 E., approximate latitude 37°25'N., approximate longitude 109°17'W., I test my solar apparatus by comparing its indications resulting from solar observations made during a.m. and p.m. hours, with the meridian as determined by observation on Polaris on September 7.

September 22: I set off 37°25'N. on the lat. arc; 0° 20'N. on the decl. arc; and at 7h 53m a.m., l.m.t., determine a meridian with the solar, which coincides with the meridian as obtained by observation on Polaris on September 7.

September 22: I set off 0°15'N. on the decl. arc; and at apparent noon, observe the sun on the meridian; the resulting lat. is 37°25'N.

September 22, 1912: I set off 37°25'N. on the lat. arc; 0°12'N. on the decl. arc; and at 3h 53m p.m., l.m.t., determine a meridian with the solar, which coincides with the meridian as obtained by observation on Polaris on September 7, 1912.

September 22, 1912.

September 24: At 9h a.m., l.m.t., I set off 37°22'30" on the lat. arc; 0°29'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	secs. 2, 3, 34 and 35, on the S. bdy. of the Tp., heretofore described.
	Thence
	N.0°01'W., bet. secs. 34 and 35,
	Over rolling park surface; scant vegetation.
4.00	Begin ascent of SW. slope of mesa, bearing E. and W.; thence over a series of ridges and ravines.
16.00	Coal outcroppings on line.
16.50	Top of ascent, bearing E. and W.; thence over mesa, through scattering scrub cedar and pinon, and undergrowth of sagebrush.
31.00	Wash, dry, 30 lks. wide, course SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone on stone base, for ¼ sec. cor., with brass cap marked S 34 ¼ | S 35 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
54.00	Leave cedar and pinon, bearing NE. and SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in earth for the cor. of secs. 26, 27, 34 and 35, with brass cap marked T 39 S | R 25 E S 27 | S 26 S 34 | S 35 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling, open park, 16.50 chs.; rolling mesa, 63.50 chs.
	Soil, loose sandy bench loam.
	Undergrowth, shadscale.
	Scattering scrub cedar and pinon, 63.50 chs.; bare and scant vegetation, 16.50 chs.

Chains	
	East, on a random line bet. secs. 26 and 35.
40.00	Set temp. ¼ sec. cor.
79.91	Intersect N. and S. line 5 lks. N. of the cor. of secs. 25, 26, 35 and 36.
	Thence
	N.89°58'W., on a true line bet. secs. 26 and 35,
	Over rolling mesa, covered with sagebrush, draining SE.
18.00	Mesa ruins on line.
24.00	Top of ridge, bears NW. and SE.; descend slightly; drainage W.
39.95½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked.
	S ¼ 26 / S 35 / 1912
	Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
79.91	The cor. of secs. 26, 27, 34 and 35.
	Land, gently rolling.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, scattering to dense sagebrush.
	Fair grazing.
	No timber.
	N.0°01'W., bet. secs. 26 and 27,
	Over rolling sagebrush mesa, draining NW.
18.00	Wash, dry, 20 lks. wide, 3 ft. deep, drains NW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 27 ¼ | S 26 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.50	Wash, 20 lks. wide, 3 ft. deep, dry, course W.
41.00	Ascend S. slope of ridge, bearing E. and W.
48.00	Top of ridge, bears E. and W.; thence gentle descent.
54.00	Descend from mesa, bearing E. and W., over S. slope of Navajo Canon.
72.00	Foot of slope, bearing E. and W.; thence across park in Navajo Canon.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 22, 23, 26 and 27, with brass cap marked

T 39 S S 22	R 25 E S 23
S 27	S 26

1912

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

Land, gently rolling, 62.00 chs.; broken, 8.00 chs.

Soil, sandy bench loam, 62.00 chs.; poor and stony, 8.00 chs.

Undergrowth, sagebrush.

Fair grazing on bench and in Navajo Canon.

No timber.

September 24: At this cor. I set off 0°32'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the latitude observed is 37°24', which is sufficiently correct.

	S.89°58'E., on a random line bet. secs. 23 and 26.
40.00	Set temp. ¼ sec. cor.
79.94	Intersect the N. and S. line 2 lks. N. of the cor. of secs. 23, 24, 25 and 26.
	Thence
	N.89°57'W., on a true line bet. secs. 23 and 26,
	Descending W. slope of mesa, over rolling and broken land.
20.00	Foot of descent, bearing NE. and SW.; thence

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	across canon wash; dry, 4.00 chs. wide, 10 ft. deep, crossing and recrossing same.
36.00	Leave wash, course NW.; thence over rolling surface.
39.97	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 23 / ¼ / S 26 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
40.15	Cross Canon wash, dry, course SW.
44.00	Over same, rolling and broken surface.
48.00	Same wash, course NW.
56.00	Over same, bearing NW. and SE.; ascend to mesa.
60.00	Top of ascent, bearing NW. and SE.; descend from mesa.
64.00	Foot of descent, bearing NE. and SW.; thence across rolling surface of Navajo Canon.
79.94	The cor. of secs. 22, 23, 26 and 27.
	Land, rolling and broken.
	Soil, generally stony and poor.
	Little vegetation; scant grazing.
	No timber.
	September 24: At 2h 30m p.m., l.m.t., I set off 37°24' on the lat. arc; 0°34'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 22, 23, 26 and 27.
	Thence
	N.0°01'W., bet. secs. 22 and 23,
	Over rolling park surface in Navajo Canon.
.50	Wash, dry, 30 lks. wide, course SW.
8.00	Begin precipitous ascent of N. slope of canon, bearing NE. and SW.
12.00	Top of ascent; thence over mesa, through scattering cedar and pinon.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
24.00	Ascend stony S. slope of mesa.
34.00	Top of ascent, bearing E. and W.; thence over open and rolling mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 22 ¼ | S 23 1912 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.
57.00	Descend over sandstone ledge and N. slope of mesa into Black Steer Park.
69.00	Foot of descent, bearing NW. and SE.; thence over rolling surface in park.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 14, 15, 22 and 23, with brass cap marked T 39 S | R 25 E S 15 | S 14 S 22 | S 23 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, level and gently rolling mesa, 57.00 chs.; broken on slope; rolling and level in park; 3rd and 4th rate.

Soil, sandy loam on mesa; poor on slopes and in park.

Undergrowth, sagebrush and greasewood.

Grazing, fair to scant.

No timber.

September 24, 1912.

September 25: At 9h a.m., l.m.t., I set off 37°25'N. on the lat. arc; 0°52'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 14, 15, 22 and 23.

Thence

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	S.89°57'E., on a random line bet. secs. 14 and 23.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect N. and S. line 4 lks. S. of the cor. of secs. 13, 14, 23 and 24.
	Thence
	N.89°59'W., on a true line bet. secs. 14 and 23.
	Descending from mesa, over rocky ledges and broken surface.
16.00	Foot of descent, bearing N. and S.; thence over bench land, descending through scattering cedars.
18.00	Foot of descent, bearing N. and S.; thence ascend ridge.
24.00	Top of bench, bearing N. and S.; descend.
30.00	Leave scattering cedars, bearing NW. and SE.; descend rocky SW. slope.
32.00	Foot of descent, bearing N. and S.; thence over rolling park surface.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 14 / ¼ / S 23 / 1912
	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.
42.00	Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo., bears NW. and SE.
47.00	Blue Spring is about 15.00 chs. S. of this point.
53.50	Cross a road leading from the main road to Blue Spring, bearing NW. and SE.
80.00	The cor. of secs. 14, 15, 22 and 23.
	Land, rolling and broken.
	Soil, generally poor and stony, 4th rate.
	Undergrowth, greasewood.
	Grazing, scant to poor.
	Timber, scattering cedar.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	N.0°01'W., bet. secs. 14 and 15,
	Over rolling surface of Black Steer Park, through salt sage and bunch grass strown with malpai stone.
25.00	Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo., bearing NW. and SE.
27.00	Wash, dry, 30 lks. wide, course NW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked.
	S 15 ¼ | S 14 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
53.00	Wash, 30 lks. wide, dry, course SW.
68.00	Ascend malpai ridge bearing E. and W.
76.00	Over same.
79.00	Begin ascent of S. slope of mesa, bearing E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 10, 11, 14 and 15, with brass cap marked
	T 39 S | R 25 E S 10 | S 11 S 15 | S 14 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken.
	Soil, poor and barren; volcanic rock formation.
	Undergrowth, shadscale and greasewood.
	No timber.

September 25: At apparent noon I set off 0°55'S. on the decl. arc; and observe the sun on the meridian, at the cor. of secs. 10, 11, 14 and 15; the resulting lat. is 37°26'.

Thence

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	S.89°59'E., on a random line bet. secs. 11 and 14.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect the N. and S. line 10 lks. N. of the cor. of secs. 11, 12, 13 and 14.
	Thence
	N.89°55'W., on a true line bet. secs. 11 and 14.
	Over rolling sagebrush mesa.
18.00	Descend from mesa, bearing NW. and SE., through scattering scrub cedar and pinon.
24.00	Coal outcroppings on line; descend over a series of ridges and ravines.
34.00	Wash, 50 lks. wide, 4 ft. deep, dry; course SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 11 / ¼ / S 14 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
56.00	Descend from bench, bearing NW. and SE.
66.00	Foot of descent, bearing NW. and SE.
70.00	Leave scattering cedar and pinon, bearing NW. and SE.
71.00	Top of bench, bearing NW. and SE.; descend S. slope of mesa.
80.00	The cor. of secs. 10, 11, 14 and 15.
	Land, broken and rolling.
	Soil, poor, barren, volcanic surface.
	Undergrowth, sagebrush.
	Scant grazing.
	Timber, scrub cedar and pinon, very scattering.
	September 25, 1912.

September 30: At 9h a.m., l.m.t., I set off 37°26' on the lat. arc; 2°49'30"S. on the decl. arc; and deter

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	mine a meridian with the solar at the cor. of secs. 10, 11, 14 and 15.
	Thence
	N.0°01'W., bet. secs. 10 and 11,
	Ascending SW. slope of mesa, over a series of ridges and ravines, through scattering salt sage and short grass.
16.00	Descend W. slope, bearing NE. and SW.
20.00	Draw, dry, draining SW.; begin ascent of W. slope.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone on stone surface, for ¼ sec. cor., with brass cap marked S 10 ¼ | S 11 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
52.00	Coal outcroppings on line; ascend rocky ledges to top of point projecting W.
56.00	Begin descent of rocky ledges bearing NW. and SE., over barren W. slope and a series of ridges and ravines.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 2, 3, 10 and 11, with brass cap marked T 39 S | R 25 E S 3 | S 2 S 10 | S 11 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken and rolling.
	Soil, poor, stony, barren and volcanic; 4th rate on slopes.
	Undergrowth, short sage.
	Scant grazing.
	No timber.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	S.89°55'E., on a random line bet. secs. 2 and 11.
40.00	Set temp. ¼ sec. cor.
79.84	Intersect N. and S. line 39 lks. S. of the cor. of secs. 1, 2, 11 and 12.
	Thence
	S.89°49'W., on a true line bet. secs. 2 and 11,
	Ascending abruptly W. slope of canon, over series of ridges and ravines.
2.00	Ascend gradually E. slope of mesa, bearing N. and S.
12.00	Top of ascent; thence over mesa, through scattering cedar and pinon.
28.00	Leave cedar and pinon, bearing N. and S., thence over sagebrush mesa.
39.92	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 2 / ¼ / S 11 / 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
64.00	Enter scattering cedar and pinon, bearing N. and S.
76.00	Leave cedar and pinon, bearing N. and S.; descend over rocky ledges on W. slope of mesa.
79.84	The cor. of secs. 1, 2, 11 and 12.
	Land, broken and rolling.
	Soil, poor, barren and volcanic in character.
	Undergrowth, sagebrush.
	Scant vegetation.
	Timber. scattering cedar and pinon.
	N.0°01'W., on a random line bet. secs. 2 and 3.
40.00	Set temp. ¼ sec. cor.
80.07	Intersect N. and S. line 38 lks. E. of the cor. of secs. 2, 3, 34 and 35, heretofore described.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Thence
	S.0°16'E., on a true line bet. secs. 2 and 3,
	Over W. slope of mesa with rocky, broken surface,
	through scattering scrub cedar and pinon.
12.00	Ascend S. slope of Cross Canon, bearing E. and W.
39.00	Top of ascent, bearing E. and W.; thence over mesa.
40.07	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins.
	in the ground, for ¼ sec. cor., with brass cap marked
	S 3 ¼ | S 2
	1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high,
	W. of cor.
74.00	Leave cedar and pinon; descend from mesa, over a series
	of ridges and ravines bearing NW. and S.
79.00	Ascend W. slope of draw, bearing N. and E.
80.07	The cor. of secs. 2, 3, 10 and 11.
	Land, rolling and broken.
	Soil, generally volcanic in composition.
	Undergrowth, shadscale and sagebrush.
	Timber, scattering scrub cedar and pinon, about 74.00
	chs.
	Scant grazing.
	September 30: Sky overcast at noon; unable to make
	observation for lat.

September 30, 1912.

Jos. C. Thorna

U. S. Surveyor.

The survey of the subdivisional lines in this township was commenced by me September 24, 1912, and executed with a Keuffel & Esser transit, No. 20037, for description of which, and certificate of official test for instrumental errors preliminary to the commencement

Chains	
	of the surveys under this group on the meridian at Salt Lake City, see book "A."
	All lines run in this township were made from my camp in sec. 13, T. 39 S., R. 24 E., where I established a meridian from an observation on Polaris, September 7 and 8, and tests of the solar apparatus thereon, for record of which see book "Q" 1.
	I made frequent tests of the solar attachments on this meridian, during the progress of the subdivisional surveys, in T. 39 S., R. 25 E., all parts being at all times in adjustment.
	September 30: At 8h 20m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 2°48'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34, on the S. bdy. of the Tp., rebuilt by Jos. C. Thoma, U. S. Surveyor, September 18, under this assignment, heretofore described.
	Thence
	N.0°02'W., bet. secs. 33 and 34,
	Over broken surface, ascending from short canon.
5.00	Mesa, with bed rock surface, bearing NW. and E.; thence through scattering cedar and pinon, over western point of mesa; soil, thin, on bed rock.
21.00	Descend over sandstone ledge 30 ft. high, leaving scattering timber and steep descent over barren breaks.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 33 ½ | S 34 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
46.00	Foot of descent; wash, dry, 15 lks. wide, course NW.; ascend over broken, bare surface.
60.00	Sharp point of ridge, bearing NE. and SW. and sloping W. from mesa.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	in the ground, for cor. of secs. 27, 28, 33 and 34, with brass cap marked
	T 39 S | R 25 E S 28 | S 27 S 33 | S 34 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken and rolling canon surface.
	Soil, thin, on bed rock.
	Undergrowth, shadscale. Scant vegetation.
	Timber, scattering scrub cedar and pinon on mesa.
	East, on a random line bet. secs. 27 and 34.
40.00	Set temp. ¼ sec. cor.
79.90	Intersect N. and S. line 12 lks. N. of the cor. of secs. 26, 27, 34 and 35.
	Thence
	N.89°55'W., on a true line bet. secs. 27 and 34,
	Over rolling sagebrush mesa.
39.95	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 27 ¼ S 34 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
57.00	Descend from mesa, bearing NE. and S., over sandstone ledges and broken, barren canon breaks, into Navajo Canon.
79.90	The cor. of secs. 27, 28, 33 and 34.
	Land, rolling mesa.
	Soil: Sandy bench loam on mesa, 1st rate if irrigated; on breaks, poor and stony, 4th rate.
	Undergrowth, sagebrush. Fair grazing on mesa.
	No timber.

Chains	
	September 30: At this cor. at apparent noon the sun was obscured by clouds. No lat. observation taken.
	N.0°02'W., bet. secs. 27 and 28,
	Over rolling and level surface, descending into Navajo Canon park.
19.00	Wash, dry, 3 ft. deep, 30 lks. wide, drains SW.
22.00	Ascend broken, barren, stony canon breaks.
32.00	Top of ascent, bearing NE. and SW.; thence over rolling mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 28 ¼ | S 27 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 21, 22, 27 and 28, with brass cap marked T 39 S | R 25 E; S 21 | S 22; S 28 | S 27; 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, gently rolling on mesa and in park; broken on slope.
	Soil, sandy bench loam on mesa and in park; poor, stony and barren on slope.
	Sagebrush on mesa; scant vegetation on slope and in park.
	Grazing, fair on mesa, balance scant.
	At this cor., at 2h 20m p.m., l.m.t., I set off 37°24'N. on the lat. arc; 2°54'S. on the decl. arc; and determine a meridian with the solar, which I find coincides with my lines just run.
	September 30, 1912.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Daniel B. Miller U. S. Surveyor.
	October 1: At 8h 45m a.m., l.m.t., I set off 37°24' on the lat. arc; 3°11'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 21, 22, 27 and 28, set by Daniel B. Miller, U. S. Surveyor, under this assignment, September 30, 1912.
	Thence
	S.89°55'E., on a random line bet. secs. 22 and 27.
40.00	Set temp. ¼ sec. cor.
79.85	Intersect N. and S. line 20 lks. S. of the cor. of secs. 22, 23, 26 and 27.
	Thence
	S.89°56'W., on a true line bet. secs. 22 and 27,
	Over rolling surface of open park in Navajo Canon.
.50	Wash, dry, 40 lks. wide, 5 ft. deep, course SW.
21.00	Begin ascent over broken W. slope of Navajo Canon, bearing N. and S.
30.00	Top of ascent, to point, from mesa to the N. point slopes S.; steep descent from point.
36.50	Foot of descent; wash, dry, 30 lks. wide, 3 ft. deep, course S.; ascend broken surface from wash.
39.92½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 22 ¼ S 27 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
42.00	Top of ascent, on point, bearing N. and S., projecting S.; descend over broken W. slope of ridge.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
48.00	Foot of descent, bearing N. and S.
48.50	Wash, dry, 20 lks. wide, 2 ft. deep, drains S.; ascend abruptly.
54.00	Top of ascent, bearing N. and S.; thence ascend gradually over mesa, through sagebrush.
76.00	Top of mesa ridge, bearing NE. and SW.; slight descent.
79.85	The cor. of secs. 21, 22, 27 and 28.
	Land, generally broken and rolling.
	Soil: On mesa, sandy bench loam; on slopes and in canon, poor, thin and stony, and volcanic composition.
	Scattering sagebrush in canon and on mesa; fair grazing. On slopes, poor and barren.
	No timber.

N.0°02'W., bet. secs. 21 and 22,

Over rolling mesa, draining NW., through scattering sagebrush and scattered clumps of cedar and pinon.

32.00	Leave scrub cedar and pinon, bearing NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 21 ¼ | S 22

1912

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. in diam., 24 ins. in the ground, for cor. of secs. 15, 16, 21 and 22, with brass cap marked

T 39 S	R 25 E
S 16	S 15
S 21	S 22

1912

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. 39 S., R. 25 E.

Chains	
	Land, level and gently rolling.
	Soil, sandy bench loam, 1st rate if irrigated.
	Undergrowth, scattering to dense sagebrush.
	Timber, scattering clumps of scrub cedar and pinon, 32.00 chs.
	October 1: At this cor. I set off 3°15'S. on the decl. arc; and at apparent noon observe the sun on the meridian; the observed lat. is 37°25', which is the correct lat. nearly.
	October 1, 1912.
	October 2: At 9h a.m., l.m.t., I set off 37°25' on the lat. arc; 3°35'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 15, 16, 21 and 22.
	Thence
	S.89°56'E., on a random line bet. secs. 15 and 22.
40.00	Set temp. ¼ sec. cor.
79.98	Intersect N. and S. line at the cor. of secs. 14, 15, 22 and 23.
	Thence
	S.89°56'W., on a true line bet. secs. 15 and 22,
	Ascending E. slope of mesa, over broken and stony surface; thence steep ascent of a series of ridges and ravines.
19.00	Top of ascent, bearing N. and S., thence over rolling and broken mesa.
24.00	Enter scrub cedar and pinon bearing NE. and SW.
32.00	Cross canon, 2.00 chs. wide, course NE.
39.99	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 15 ¼ S 22 1912
	Dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft.

Chains	
	dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, N. of cor.
44.00	Descend into canon, course NE.
52.00	Over hollow, course NE., on rolling sagebrush mesa.
79.98	The cor. of secs. 15, 16, 21 and 22.
	Land, generally broken, 3rd and 4th rate.
	Soil, on slopes and in canons, poor and stony, of volcanic composition; on mesas, sandy bench loam.
	Undergrowth, sagebrush.
	Fair grazing.
	Timber, scattering scrub cedar and pinon.
	N.0°02'W., bet. secs. 15 and 16.
	Over rolling surface, through sagebrush. Drainage S. and E.
12.00	Begin draining N.; enter scattering scrub cedar and pinon bearing NE. and W.
23.00	Begin descent of N. slope of mesa, bearing E. and W.; thence over a series of rocky ridges and ravines; leave cedar and pinon.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 16 ¼ | S 15 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
48.00	Foot of slope, bearing E. and W.; thence over rolling surface of Black Steer Park.
58.00	Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo, bears E. and W.
65.00	Wash, shallow and dry, 1.00 ch. wide, course NW.
66.00	Begin ascent of S. slope of ridge, bearing E. and W.; thence over a series of ridges and ravines strewn with small malpai rock.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	In the ground, for cor. of secs. 9, 10, 15 and 16, with brass cap marked
	T 39 S | R 25 E S 9 | S 10 S 16 | S 15 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, on mesa, gently rolling; on slopes, broken; in park, rolling and broken.
	Soil, sandy bench loam on mesa; poor, stony and volcanic on slopes and in park; 2nd to 4th rate.
	Undergrowth, sagebrush.
	Timber, scattering scrub cedar and pinon.
	October 2: Walking on line at noon; unable to observe sun for lat.
	October 2, 1912
	September 25:
	N.89°56'E., on a random line bet. secs. 10 and 15.
40.00	Set temp. ¼ sec. cor.
80.05	Intersect N. and S. line 5 lks. S. of the cor. of secs. 10, 11, 14 and 15.
	Thence
	S.89°54'W., on a true line bet. secs. 10 and 15.
	Descending SW. slope of mesa, through sagebrush and salt sage.
2.00	Foot of slope, bearing NW. and SE.; thence over rolling surface in Black Steer Park.
20.00	Wash, 10 lks. wide, 2 ft. deep, drains SW.
32.00	Ascend E. slope of ridge, bearing N. and S.
36.00	Top of ridge, bears N. and S.
38.50	Descend W. slope of ridge.
40.02½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 10 ¼ S 15 1912

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Thence over ascent of S. slope, crossing a series of ridges and ravines.
49.00	Top of bench, bears NE. and SW.
60.00	Ascend SE. slope of point, bearing N. and S.
67.00	Top of point, bearing NE. and SW.; thence over rim rock 20 ft. high, leading N.
73.00	Descend W. slope, bearing NW. and SE., over rim rock 30 ft. high, thence broken surface.
80.05	Intersect the cor. of secs. 9, 10, 15 and 16.
	Land, generally broken and rolling.
	Soil, generally poor, stony; volcanic formation.
	Undergrowth, sagebrush, salt sage and greasewood.
	Scant grazing.
	No timber.
	September 25, 1912.

October 2: At 1h 45m p.m., l.m.t., I set off 37°26' on the lat. arc; 3°40'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 9, 10, 15 and 16.

Thence

N.0°02'W., bet. secs. 9 and 10,

	Ascending S. slope of ridge covered with salt sage and grass and strewn with malpai and conglomerate rock.
8.00	Top of ridge; begin descent of N. slope.
24.00	Foot of slope in arm of Montezuma Canon, bearing E. and W.; continue across canon.
36.00	Wash in canon, dry, course W.
37.00	Over same, bearing E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 9 ¼ | S 10

1912

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	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.
51.00	Wash, dry, course W.
52.00	Over same, bearing E. and W.; thence over rolling surface.
72.00	Begin ascent of N. slope of canon, bearing E. and W.; thence over a series of barren ridges and ravines strewn with malpai boulders.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 3, 4, 9 and 10, with brass cap marked

T 39 S | R 25 E
S 4 | S 3
S 9 | S 10
1912

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

Land, rolling and broken.

Soil, generally poor, barren and stony; volcanic formation.

Undergrowth, shadscale and greasewood.

Scant grazing.

No timber.

October 2, 1912.

Jos. C. Thoma

U. S. Surveyor.

October 2, 1912: At 2h 20m p.m., l.m.t., I set off 37°27' on the lat. arc; 3°40'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 9 and 10, set by Jos. C. Thoma, U. S. Surveyor, under this assignment, today.

Thence

N.89°54'E., on a random line bet. secs. 3 and 10.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.00	Set temp. ¼ sec. cor.
80.02	Intersect N. and S. line 4 lks. S. of the cor. of secs. 2, 3, 10 and 11.
	Thence
	S.89°52'W., on a true line bet. secs. 3 and 10,
	Over broken surface.
2.00	Descend over sandstone rim rock 30 ft. high; thence steep descent over broken barren, stony, washed surface, into canon. Rim rock bears NW. and S.
30.00	Foot of descent; wash, 20 lks. wide, dry, drains N.; ascend low ridge sloping N.
40.01	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	¼ S 3 / S 10 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
45.00	Top of low ridge, bearing N. and S.; descend.
56.50	Wash, dry, 25 lks. wide, course SW.; thence ascend over rolling and broken volcanic rock surface.
80.02	The cor. of secs. 3, 4, 9 and 10.
	Land, rolling and broken.
	Soil, poor, thin and volcanic in character; 4th rate.
	Scant grazing and other vegetation.
	Undergrowth, shadscale and greasewood.
	No timber.

October 2, 1912.

Daniel B. Miller

U. S. Surveyor.

October 2: At 2h 20m p.m., l.m.t., I set off 37°27' on the lat. arc; 3°40'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	secs. 3, 4, 9 and 10.
	Thence
	N.0°02'W., on a random line bet. secs. 3 and 4.
40.00	Set temp. ¼ sec. cor.
80.19	Intersect the N. bdy. of the Tp. 25 lks. E. of the cor. of secs. 3, 4, 33 and 34, heretofore described.
	Thence
	S.0°13'E., on a true line bet. secs. 3 and 4.
	Ascending over a series of barren ridges and ravines on S. slope of canon.
24.00	Top of ascent, sandstone ledge, bearing E. and W.; thence over rolling mesa, through scattering scrub cedar and pinon.
40.19	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 4 ¼ | S 3 1912
	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.
	No trees in limits suitable for marking.
58.00	Descend from mesa, bearing E. and W., over sandstone ledges to broken, barren N. slope of canon; leave scattering cedar and pinon.
80.19	The cor. of secs. 3, 4, 9 and 10.
	Land, mesa, 36.00 chs.; broken, stony, barren canon slopes, 44.00 chs.
	Soil, on mesa, sandy loam; on slopes, poor, 4th rate.
	Undergrowth, shadscale, greasewood and sagebrush.
	Timber, scattering cedar and pinon.
	Fair grazing on mesa.

October 2, 1912.

Jos. C. Thoma

U. S. Surveyor.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	September 26: At 8h 53m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 1°15'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 4, 5, 32 and 33, set by Jos. C. Thoma, U. S. Surveyor, September 23, under this assignment, and heretofore described. Thence
	N.0°03'W., bet. secs. 32 and 33,
	Descending broken slope into Navajo Canon.
36.50	Foot of descent; wash, shallow and dry, course N.80°W.; thence over rolling surface.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone and earth, on stone bed, for ¼ sec. cor., with brass cap marked
	¼ S 32 | S 33 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
76.00	Wash, 30 lks. wide, dry, course W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in stone and earth on stony surface, for cor. of secs. 28, 29, 32 and 33, with brass cap marked
	T 39 S | R 25 E S 29 | S 28 S 32 | S 33 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling and broken.
	Soil, poor, stony and mostly barren, 4th rate; some scant grazing.
	Undergrowth, sagebrush and greasewood.
	No timber.
	September 26, 1912.
	September 30:
	East, on a random line bet. secs. 28 and 33.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.00	Set temp. ¼ sec. cor.
79.90	Intersect N. and S. line 5 lks. N. of the cor. of secs. 27, 28, 33 and 34.
	Thence
	N.89°58'W., on a true line bet. secs. 28 and 33,
	Over gently rolling sagebrush mesa.
39.95	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 28 / S 33 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
67.00	Wash, 40 lks. wide, dry, course S.80°W.
79.90	The cor. of secs. 28, 29, 32 and 33.
	Land, rolling and broken.
	Soil, sandy and stony, 3rd and 4th rate.
	Undergrowth, greasewood and sagebrush.
	Fair grazing in patches.
	No timber.
	September 30, 1912.

September 26: At the cor. of secs. 28, 29, 32 and 33, I set off 1°18'30"S. on the decl. arc; and at apparent noon observe the sun on the meridian; The observed lat. is 37°23'30", which is approximately correct.

Thence

N.0°03'W., bet. secs. 28 and 29,

Over broken, stony, steep slope and broken ridges projecting E.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 29 ¼ | S 28 / 1912

And raise a mound of stone, 2 ft. base, 1½ ft. high,

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	W. of cor.
61.00	Top of ascent, bearing NE. and SW.; thence over gently rolling mesa, through scattering sagebrush.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 20, 21, 28 and 29, with brass cap marked

T 39 S	R 25 E
S 20	S 21
S 29	S 28

1912

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 on slopes and in canon; rolling on mesa.

Soil, stony and poor on slopes; sandy bench loam on mesa; 2nd to 4th rate.

Undergrowth, sagebrush and greasewood.

Grazing, fair to scant.

No timber.

September 26, 1912.

September 30: At 2h 20m p.m., l.m.t., I set off 37°24' on the lat. arc; 2°54'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 20, 21, 28 and 29.

Thence

S.89°58'E., on a random line bet. secs. 21 and 28.

40.00	Set temp. ¼ sec. cor.
79.86	Intersect N. and S. line 5 lks. S. of the cor. of secs. 21, 22, 27 and 28.

Thence

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

Over gently rolling sagebrush mesa.

31.00	Descend from mesa, bearing N. and S., over steep, broken canon side.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
39.93	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S ¼ 21 S 28 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
51.00	Wash in canon, 20 lks. wide, dry, course SW.; ascend steep slope.
63.60	Top of ascent, bears NE. and SW.; thence over gently rolling sagebrush mesa.
79.86	The cor. of secs. 20, 21, 28 and 29.
	Land, rolling on mesas; broken in canon.
	Soil, sandy bench loam on mesas; poor, stony and barren in canon and on slopes; 2nd to 4th rate.
	Undergrowth, shadscale, sagebrush and greasewood.
	No timber.
	September 30, 1912.
	September 27: At 8h 20m a.m., l.m.t., I set off 37°24' on the lat. arc; 0°38'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 20, 21, 28 and 29.
	Thence
	N.0°03'W., bet. secs. 20 and 21,
	Over gently rolling sagebrush mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 20 ¼ | S 21 1912 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. in diam., 24 ins. in the ground, for cor. of secs. 16, 17, 20 and 21,

Chains

with brass cap marked

T 39 S	R 25 E
S 17	S 16
S 20	S 21

1912

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

Land, gently rolling.

Soil, sandy bench loam, 1st rate if irrigated.

Undergrowth, scattering sagebrush.

Fair grazing.

No timber.

September 27, 1912.

Daniel B. Miller

U. S. Surveyor.

October 1: At 1h 15m p.m., l.m.t., I set off 37°25' on the lat. arc; 3°16'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16, 17, 20 and 21, set September 17 by D. B. Miller, U. S. Surveyor, under this assignment.

Thence

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

40.00 Set temp. ¼ sec. cor.

80.00 Intersect N. and S. line 3 lks. S. of the cor. of secs. 15, 16, 21 and 22.

Thence

S.89°59'W., on a true line bet. secs. 16 and 21.

Over rolling mesa, covered with sagebrush.

20.00 Enter scrub cedar and pinon, bearing NE. and SW.

Ridge bears NW. and SE.

34.00 Perpendicular descent over rim rock 40 ft. high, bearing N. and S.; thence steep descent over broken surface, into Montezuma Canon.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone, on stony surface, for ¼ sec. cor., with brass cap marked S ¼ 16 S 21 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, S. of cor.
	Impracticable to set mound of stone N. of cor. on account of an immense sandstone boulder.
56.00	Wash, dry, 50 lks. wide, course NW.; ascend.
77.00	Top of point projects N.
80.00	The cor. of secs. 16, 17, 20 and 21.
	Land, gently rolling on mesa; broken on slopes.
	Soil, sandy bench loam on mesa; poor, barren adobe on slopes; 2nd to 4th rate.
	Undergrowth, sagebrush.
	Fair grazing on mesa; scant grazing and barren on slopes.
	Timber, cedar and pinon.
	October 1, 1912. Jos. C. Thoma U. S. Surveyor.

	September 27: At 1h 30m. p.m., l.m.t., I set off 37°25' on the lat. arc; 1°43'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16, 17, 20 and 21.
	Thence
	N.0°03'W., bet. secs. 16 and 17.
	Over rolling and broken slope into a wide canon from E. to W.
3.00	Bottom of descent bears NW. and SE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone and earth, on stony surface, for

SUBDIVISION OF T. 39 S., R. 25 E.

Chains

¼ sec. cor., with brass cap marked

S 17 ¼ | S 16

1912

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

54.00 Ascend ridge of volcanic or igneous rock bearing E. and W.

60.00 Top of stony ridge, 50 ft. high, bearing E. and W.; descend N. side.

67.00 Foot of descent, bearing E. and W.; thence over rolling lava rock-strewn surface.

74.00 Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo., bears E. and W.

76.50 Wash, 40 lks. wide, shallow and dry, course W.

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in a mound of stone, on a stony surface, for cor. of secs. 8, 9, 16 and 17, with brass cap marked

T 39 S | R 25 E
S 8 | S 9
S 17 | S 16

1912

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

Land, rolling and broken.

Soil, poor, stony and hard adobe, 4th rate.

Undergrowth, shadscale.

Scant grazing; little vegetation of any kind.

No timber.

September 27, 1912.

Daniel B. Miller

U. S. Surveyor.

September 30. At 8h 30m a.m., l.m.t., I set off 37°26' on the lat. arc; 2°01'S. on the decl. arc; and deter-

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	mine a meridian with the solar at the cor. of secs. 8, 9, 16 and 17, set by D. B. Miller, U. S. Surveyor, September 27.
	Thence
	N.89°59'E., on a random line bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
79.78	Intersect N. and S. line 18 lks. S. of the cor. of secs. 9, 10, 15 and 16.
	Thence S.89°51'W., on a true line bet. secs. 9 and 16,
	Over broken and rolling park surface.
8.00	Draw, dry, drains S.; ascend broken slope.
16.00	Top of ridge bears N. and S. Descend over broken land.
39.89	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 9 / S 16 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
57.50	Foot of descent, bearing N. and S.; thence over rolling surface of Black Steer Park.
79.78	The cor. of secs. 8, 9, 16 and 17.
	Land, rolling and broken.
	Soil, poor, thin and volcanic.
	Undergrowth, greasewood and shadscale.
	Scant grazing in patches.
	No timber.
	N.0°03'W., bet. secs. 8 and 9,
	Ascending S. slope of ridge, through salt sage and bunch grass, strewn with conglomerate boulders.
26.00	Top of ridge, bearing E. and W.; continue over a series of ridges and ravines, over point sloping W.
39.00	Begin descent of N. slope of ridge.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 8 ¼ | S 9 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
41.00	Canon near head, from SE. to NW.; ascend.
47.00	Ridge, 30 ft. above canon, bears E. and W.; descend over barren rocky slope and canon breaks.
64.00	Foot of descent, bears E. and W.; descend gradually over rolling land.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 4, 5, 8 and 9, with brass cap marked T 39 S | R 25 E S 5 | S 4 S 8 | S 9 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling and broken.

Soil, poor and stony; volcanic elements.

Undergrowth, greasewood and shadscale; generally barren, with scant growth of bunch grass in patches.

No timber. September 28, 1912.

Jos. C. Thoma

U. S. Surveyor.

October 2: At apparent noon, I set off 3°38'S. on the decl. arc; and observe the sun on the meridian, at the cor. of secs. 4, 5, 8 and 9, set by Jos. C. Thoma, U. S. Surveyor, September 28. I find the recorded latitude is 37°27', which is sufficiently correct.

Thence

N.89°51'E., on a random line bet. secs. 4 and 9.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.00	Set temp. ¼ sec. cor.
79.71	Intersect N. and S. line 17 lks. N. of the cor. of secs. 3, 4, 9 and 10.
	October 2: At 2h 30m p.m., l.m.t., I set off 37°27' on the lat. arc; 3°40'30"S on the decl. arc; and find the meridian thus secured coincides with my random line bet. secs. 4 and 9.
	Thence
	S.89°58'W., on a true line bet. secs. 4 and 9,
	Over rolling land and canon breaks, sloping S.
34.50	Dry wash, 30 lks. wide, course NW.
39.85½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. firmly in a mound of stone, on bed rock, for ¼ sec. cor., with brass cap marked
	S 4 / ¼ / S 9 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
79.71	The cor. of secs. 4, 5, 8 and 9.
	Land, rolling and broken.
	Soil, poor and stony; volcanic in character.
	Undergrowth, greasewood; scant grazing and little vegetation; mostly barren.
	No timber.
	October 2, 1912.
	Daniel B. Miller
	U. S. Surveyor.

September 28: At 10h 45m a.m., l.m.t., I set off 37°27' on the lat. arc; 2°04'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 4, 5, 8 and 9.

Thence

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	N.0°03'W., on a random line bet. secs. 4 and 5.
40.00	Set temp. ¼ sec. cor.
80.01	Intersect N. bdy. of Tp. 30 lks. E. of the cor. of secs. 4, 5, 32 and 33, heretofore described.
	Thence
	S.0°16'E., on a true line bet. secs. 4 and 5.
	Ascending over creek flat, through greasewood brush.
5.00	Top of ascent over point projecting SE.
25.00	Descend into canon, course W.
30.00	Over same; ascend ridge, bearing E. and W.
40.01	Top of ridge.
	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 5 ¼ | S 4 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
46.00	Descend from ridge, bearing E. and W.
54.00	Foot of descent, bearing NW. and SE.; thence over rolling surface.
60.00	Wash, in basin, 50 lks. wide, dry, course NW.
68.00	Leave basin, bearing NW. and SE.; ascend rocky N. slope.
72.00	Top of ascent; thence over rolling land, descending gradually, through scattering salt sage and bunch grass.
80.01	The cor. of secs. 4, 5, 8 and 9.
	Land, rolling and broken.
	Soil, sandy in flats and basin; stony and poor on slopes; 4th rate.
	Undergrowth, sagebrush and greasewood; some scant grazing in flats and basin; nearly bare on slopes.
	No timber.
	September 28: Walking on line at noon; unable to observe sun for lat.

September 28, 1912.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains

Jos. C. Thoma

U. S. Surveyor.

September 24: At 9h 53m a.m., l.m.t., I set off 37°22' 30" on the lat. arc; 0°29'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 32 and 33, on the S. bdy. of the Tp., set by Jos. C. Thoma, U. S. Surveyor, September 23, under this assignment, and heretofore described.

Thence

N.0°03'W., bet. secs. 31 and 32,

Descending over broken bad land ridges and washes draining E. and NE.

13.00 Base of descent bears NW. and SE.; ascend gradually.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

S 31 ¼ | S 32

1912

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

43.00 Wash, dry, 20 lks. wide, 3 ft. deep, course NW.

56.00 Ascend steep W. slope of ridge, bearing NE. and SW.

60.00 Top of ascent, bears NE. and SW., 75 ft. above wash; descend.

62.00 Foot of descent, bearing E. and W.; thence over rolling park surface in Navajo Canon.

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

T 39 S	R 25 E
S 30	S 29
S 31	S 32

1912

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

Chains	
	Land, rolling and broken. Soil, poor, stony and washed bad land; 3rd and 4th rate. Undergrowth, short sagebrush, greasewood and shadscale. Scant grazing. No timber.
	S.89°53'E., on a random line bet. secs. 29 and 32.
40.00	Set temp. ¼ sec. cor.
79.70	Intersect N. and S. line 8 lks. N. of the cor. of secs. 28. 29, 32 and 33.
	Thence
	N.89°50'W., on a true line bet. secs. 29 and 32,
	Over slightly rolling and broken surface.
21.00	Wash, 50 lks. wide, 3 ft. deep, course NW.
39.85	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in stone and earth, on stony surface, for ¼ sec. cor., with brass cap marked S ¼ 29 S 32 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
79.70	The cor. of secs. 29, 30, 31 and 32. Land, rolling and level, In Navajo Canon park. Soil, loose sandy loam and hard, gravelly ridges. Undergrowth, shadscale and greasewood. Grazing, fair to poor. No timber. September 24: At this cor. I set off 0°31'30"S. on the decl. arc; and at apparent noon observe the sun on the meridian; the observed lat. is 37°23'30", which is sufficiently correct.
	N.89°46'W., on a random line bet. secs. 30 and 31.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
40.00	Set temp. ¼ sec. cor.
79.36	Intersect W. bdy. of Tp. 2 lks. N. of the cor. of secs. 25, 30, 31 and 36, heretofore described.
	Thence
	S.89°47'E., on a true line bet. secs. 30 and 31,
	Over level and gently rolling surface, through scattering salt sage and bunch grass.
39.36	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 30 / S 31 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
77.50	Wash, dry, 50 lks. wide, shallow, course S.75°W.
79.36	The cor. of secs. 29, 30, 31 and 32.
	Land, level and gently rolling.
	Soil, loose sandy loam and gravelly clay.
	Undergrowth, greasewood.
	No timber.
	N.0°03'W., bet. secs. 29 and 30,
	Over gently rolling park surface.
1.00	Wash, 50 lks. wide, 3 ft. deep, dry, course S.75°W.
8.00	Begin ascent of broken slope of mesa, bearing E. and W.
19.00	Top of ascent, bearing E. and W.; thence over rolling sagebrush mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S 30 ¼ | S 29 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
58.00	Descend from mesa, bearing NE. and SW., over broken N. slope.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
78.00	Foot of descent, bearing NE. and SW.; thence over rolling park surface.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 19, 20, 29 and 30, with brass cap marked

T 39 S S 19	R 25 E S 20
S 30	S 29

1912

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

Land, in parks and on mesa, gently rolling; on slopes, broken.

Soil, in parks and on slopes, stony, poor and generally barren, 4th rate; on mesa, sandy bench loam.

Sagebrush and some grazing on mesa.

No timber.

September 24: At this cor., at 3h 53m p.m., l.m.t., I set off 37°24' on the lat. arc; 0°34'30"S. on the decl. arc; and determine a meridian with the solar, which I find coincides with the line bet. secs. 29 and 30.

September 24, 1912.

September 26: At 2h 53m p.m., l.m.t., I set off 37°24' on the lat. arc; 1°16'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30.

Thence

S.89°50'E., on a random line bet. secs. 20 and 29.

40.00	Set temp. ¼ sec. cor.
79.68	Intersect N. and S. line 18 lks. S. of the cor. of secs. 20, 21, 28 and 29.

Thence

N.89°58'W., on a true line bet. secs. 20 and 29,

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Over gently rolling sagebrush mesa.
39.84	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S ¼ 20 S 29 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
63.00	Descend from mesa, bearing N. and S., over broken canon surface.
79.68	The cor. of secs. 19, 20, 29 and 30.
	Land, gently rolling on mesa; broken on canon slope.
	Soil, on mesa, sandy bench loam, 1st rate if irrigated; on slope, poor, 4th rate.
	Undergrowth, sagebrush, scattering to dense on mesa.
	Fair grazing.
	No timber.
	September 26, 1912.
	September 24: At 3h 23m p.m., l.m.t., I set off 37°24' on the lat. arc; 0°34'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30.
	Thence
	N.89°47'W., on a random line bet. secs. 19 and 30.
40.00	Set temp. ¼ sec. cor.
79.16	Intersect the W. bdy. of the Tp. 10 lks. N. of the cor. of secs. 19, 24, 25 and 30, set by Jos. C. Thoma, U. S. Surveyor, September 10, under this assignment.
	Thence
	S.89°51'E., on a true line bet. secs. 19 and 30,
	Over broken bad land ridges, sloping S., ascending.
3.00	Top of ascent, bearing N. and S.; descend and ascend over small breaks on S. slope of high ridge.

Chains	
39.16	Set an iron post, 3 ft. long, 1 in. in dian., 24 ins. in stone mound on stony surface, for ¼ sec. cor., with brass cap marked S ¼ 19 S 30 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
72.00	Ascend steep SW. slope of point, bearing N. and S.
76.50	Top of point, 100 ft. high, projecting S. 3.00 chs.; descend over steep E. side of point.
79.16	The cor. of secs. 19, 20, 29 and 30. Foot of descent bearing NW. and SE. Land, broken. Soil, poor, stony bad land, barren and volcanic; 4th rate. No vegetation, except an occasional salt sage. No timber. September 24, 1912.
	September 25: At 9h 15m a.m., l.m.t., I set off 37°24' on the lat. arc; 0°52'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30. Thence N.0°03'W., bet. secs. 19 and 20, Over broken E. slope of spur, ascending to mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 19 ¼ | S 20 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
43.00	Top of ascent, bearing E. and W.; thence over gently rolling sagebrush mesa.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground, for cor. of secs. 17, 18, 19 and 20, with brass cap marked T 39 S | R 25 E S 18 | S 17 S 19 | S 20 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Cor. stands at foot of descent bearing NW. and SE. Land, broken on slope, gently rolling on mesa. Soil, barren, poor and stony on slopes; sandy bench loam on mesa, 1st rate if irrigated. Undergrowth, sagebrush and greasewood. Grazing on mesa, fair; on slopes, scant. September 25, 1912.
	September 27: S.89°58'E., on a random line bet. secs. 17 and 20.
40.00	Set temp. ¼ sec. cor.
79.76	Intersect N. and S. line at the cor. of secs. 16, 17, 20 and 21.
	Thence N.89°58'W., on a true line bet. secs. 17 and 20. Over rolling sagebrush mesa.
31.00	Descend from mesa, bearing NE. and SW., over broken slope.
39.88	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked ¼ S 17 S 20 1912 and raise a mound of earth, 2 ft. base, 1½ ft. high, N. of cor.
79.76	The cor. of secs. 17, 18, 19 and 20.

Chains	
	Land, rolling mesa and broken canon slope.
	Soil, sandy bench loam on mesa, 1st rate if irrigated; poor, stony, barren breaks on slopes.
	Grazing, fair on mesa, scant on slopes.
	No timber.
	September 27, 1912.
	September 25: At apparent noon, at the cor. of secs. 17, 18, 19 and 20, I set off 0°55'S., on the decl. arc; and observe the sun on the meridian; the resulting lat. is 37°25'.
	Thence
	N.89°51'W., on a random line bet. secs. 18 and 19.
40.00	Set temp. ¼ sec. cor.
78.10	Fall 5 lks. N. of the W.C. for the cor. of secs. 13, 18, 19 and 24, 1.00 ch. E. of the true point, set by Jos. C. Thoma, U. S. Surveyor, September 10, 1912.
	Thence
	S.89°53'E., on a true line bet. secs. 18 and 19,
	Over level greasewood flat on L. bank of Montezuma Creek, starting from the true cor. point 1.00 ch. W. of the witness cor.
18.00	Begin ascent of bad land breaks on SW. point of mesa.
39.10	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in stone and earth, on stony surface, for ¼ sec. cor. with brass cap marked S ¼ 18 S 19 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
41.00	Top of ascent on bad land ridges sloping N.; thence along N. slope of mesa, over stony bad land, descending.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
79.10	The cor. of secs. 17, 18, 19 and 20. Land, loose sandy washed loam in canon bottom, 18.00 chs.; broken, stony and very rough on slopes. Dense to scattering greasewood undergrowth in bottom. Barren and scant grazing on slopes. No timber.
	September 25: At 1h 45m p.m., l.m.t., I set off 37°25' on the lat. arc; 0°57'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 17, 18, 19 and 20. Thence N.0°03'W., bet. secs. 17 and 18, Descending over steep bad land breaks.
18.50	Wash, 20 lks. wide, dry, shallow, course NW.
33.00	Wagon road bet. Bluff, Utah, and Dolores and Cortez, Colo., bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in earth and stone, in stony land, for ¼ sec. cor., with brass cap marked S 18 ¼ | S 17 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
73.00	Foundation of an old prehistoric mesa ruin 2.00 chs. W. of the line. A cave in a hill of volcanic boulders, in which are 4 well preserved prehistoric rooms.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. firmly in a mound of stone, on stony surface, for the cor. of secs. 7, 8, 17 and 18, with brass cap marked T 39 S | R 25 E S 7 | S 8 S 18 | S 17 1912

Chains	
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling and broken.
	Soil, poor, stony, gravelly and generally bad land.
	Undergrowth, greasewood.
	Scant grazing.
	No timber.
	September 25, 1912.
	September 27:
	S.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 10 lks. S. of the cor. of secs. 8, 9, 16 and 17.
	Thence
	S.89°58'W., on a true line bet. secs. 8 and 17.
	Over rolling and broken, stony and gravelly adobe surface.
21.00	Cross wash, 20 lks. wide, dry, course SW.
37.00	Cross same draw, course NW.
39.90	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in stone mound, on stony surface, for ¼ sec. cor., with brass cap marked
	S 8 / ¼ / S 17 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
44.00	Wash, dry, 20 lks. wide, 2 ft. deep, course N.
79.80	The cor. of secs. 7, 8, 17 and 18.
	Land, broken and rolling.
	Soil, poor, adobe, stony and volcanic in composition; 4th rate.
	Undergrowth, greasewood.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	Scant grazing. No timber. September 27, 1912.
	September 25: At 3h 45m p.m., l.m.t., I set off 37°26' on the lat. arc; 0°58'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 8, 17 and 18. Thence N.89°53'W., on a random line bet. secs. 7 and 18.
40.00	Set temp. ¼ sec. cor.
79.02	Intersect the W. bdy. of the Tp. 2 lks. N. of the cor. of secs. 7, 12, 13 and 18, set by Jos. C. Thoma, U. S. Surveyor, September 10, 1912. Thence S.89°54'E., on a true line bet. secs. 7 and 18, Over bench surface on ridge projecting SE.
8.00	Begin descent of NE. slope of ridge, bearing NW. and SE.
10.00	Foot of slope, bearing NW. and SE.; thence over creek flats, through dense greasewood.
35.02	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for witness cor. for the ¼ sec. cor., with brass cap marked W C ¼ S 7 S 18 1912 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.
36.00	R. bank of Montezuma Creek, 4 ft. high, course S.80°00' W., over same, into bend of creek, course W.; bed of creek dry.
39.02	Point for ¼ sec. cor. falls in creek bed; impracticable to set same at point for cor.

Chains	
46.00	Ascend from Montezuma Creek bed, bearing NE. and SW., bank 4 ft. high, over greasewood flat.
73.00	Begin gradual ascent from flat, to low ridge or bench, bearing NE. and SW.
79.02	The cor. of secs. 7, 8, 17 and 18. Land, rolling and flat. Soil, in Montezuma flats, loose, light sand, alluvial but alkaline; on slopes and ridges, gravelly and poor adobe with scant grazing. Undergrowth, greasewood. No timber. September 25, 1912.
	October 2: At 8h 20m a.m., l.m.t., I set off 37°26' on the lat. arc; 3°34'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 8, 17 and 18. Thence N.0°03'W., bet. secs. 7 and 8. Over rolling surface, descending from bench.
18.50	Wash, dry, 25 lks. wide, course W.; begin ascent of broken adobe ridges and large sandstone boulders.
34.00	Top of ascent, 1 ft. above wash, to top of mesa extending E. on point 30 ft. W. of sandstone ledges 40 ft. high.
35.00	Precipitous descent from ridge, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone, on stony surface, for ¼ sec. cor. with brass cap marked S 7 ¼ | S 8 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
42.00	Foot of descent, bearing NE. and SW.; thence over bottom land on creek flat.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in stone and earth, in stony surface, for cor. of secs. 5, 6, 7 and 8, with brass cap marked

T 39 S	R 25 E
S 6	S 5
S 7	S 8

1912

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

Land, rolling and broken, 42.00 chs.

Soil, poor, stony, and adobe wash.

Undergrowth, greasewood.

Scant grazing.

No timber.

October 2, 1912.

Note: This corner is 19 lks. S. of the temp. post set on the E. and W. line run by Jos. C. Thoma, U. S. Surveyor, September 28, between secs. 5-8 and 6-7; these lines were run before the cor. of secs. 5, 6, 7 and 8 were set, as a saving of time. The field notes are written regularly, to harmonize the records thereof.

Daniel B. Miller

U. S. Surveyor.

September 28: At 2h 10m p.m., l.m.t., I set off 37°27' on the lat. arc; 2°07'S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 7 and 8, set by D. B. Miller, U. S. Surveyor, October 2.

Note: The lines between secs. 5-8 and 6-7 were actually run by me and temp. stakes set thereon before the cor. of secs. 5, 6, 7 and 8 was set by Mr. Miller. This

Chains	
	was done in the interest of economy in time. The field notes are written regularly, in order to harmonize the records of the survey. The ¼ cors. were set after the establishment of the sec. cor.
	From the above described cor., I run
	N.89°58'E., on a random line bet. secs. 5 and 8.
40.00	Set temp. ¼ sec. cor.
79.80	Intersect N. and S. line 14 lks. S. of the cor. of secs. 4, 5, 8 and 9.
	Thence
	S.89°52'W., on a true line bet. secs. 5 and 8,
	Descending over rolling NW. slope of ridge covered with scattering salt sage and strewn with boulders.
39.90	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone, on stone surface, for ¼ sec. cor., with brass cap marked
	S 5 ¼ S 8 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	This cor. is at the foot of slope.
	Thence over creek flat.
72.00	Ascend E. slope of ridge, bearing N. and S.
76.00	Top of ridge, bears N. and S.
77.00	Descend W. slope of ridge.
79.80	The cor. of secs. 5, 6, 7 and 8.
	Land, broken and rolling on E. half mile; gently rolling and level on W. half mile.
	Soil, stony and volcanic on E. half; loose sandy loam on W. half.
	Undergrowth, greasewood and salt sage.
	Scant grazing.
	No timber.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	N.89°54'W., on a random line bet. secs. 6 and 7.
40.00	Set temp. ¼ sec. cor.
78.87	Intersect W. bdy. of Tp. 9 lks. S. of the cor. of secs. 1, 6, 7 and 12, heretofore described.
	Thence
	S.89°50'E., on a true line bet. secs. 6 and 7,
	Descending SE. slope of mesa into Montezuma Canon, over stony, barren breaks.
38.87	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked
	S ¼ 6 / S 7 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
43.00	Descend over 20-ft. sandstone ledge, bearing N. and S.; thence over rolling land.
45.00	Dim wagon road bears N. and S.
59.00	Montezuma Creek; descend over 4-ft. bank, bearing N. and S.; thence over dry bed.
62.00	Left bank of same, bearing N. and S.; bank 4 ft. high; thence over creek flat, through greasewood brush.
78.37	Indian trail bears N. and S.
78.87	The cor. of secs. 5, 6, 7 and 8.
	Land, rolling and level on creek bottoms and flats; broken on slopes.
	Soil, barren and stony on slopes; loose sandy loam in flats.
	Undergrowth, greasewood.
	No timber.

September 28, 1912.

Jos. C. Thoma

U. S. Surveyor.

SUBDIVISION OF T. 39 S., R. 25 E.

Chains	
	October 2: At 10h 30m a.m., l.m.t., I set off 37°27' on the lat. arc; 3°36'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 7 and 8.
	Thence
	N.0°03'W., on a random line bet. secs. 5 and 6.
40.00	Set temp. ¼ sec. cor.
80.06	Intersect N. bdy. of Tp. 31 lks. E. of the cor. of secs. 5, 6, 31 and 32, set by Jos. C. Thoms, U. S. Surveyor, September 27, under this assignment.
	Thence
	S.0°16'E., on a true line bet. secs. 5 and 6.
	Over creek flats, and level and rolling land, through greasewood brush.
38.75	Wash, dry, 3 ft. deep, 40 lks. wide, course SW.
40.06	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 6 ¼ | S 5 1912. Dig pits 18 x 18 x 12 ins., E. and S. of post, 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high, W. of cor.
80.06	The cor. of secs. 5, 6, 7 and 8.
	Land, level and slightly rolling near N. end.
	Soil, loose sandy loam, 2nd to 4th rate.
	Undergrowth, dense greasewood brush on N. half mile; scattering to dense on S. half mile.
	No timber.

October 2, 1912.

Daniel B. Miller

U. S. Surveyor.

GENERAL DESCRIPTION OF T. 39 S., R. 25 E.

This township is about three-fourths rolling and broken canon surface, in and tributary to Montezuma Canon. There are two wide canons leading in a general western direction, both with wide rolling bottoms on which there is fair grazing in patches. These bottom lands, however, have numerous ridges which are of adobe soil, and volcanic stone surface, wherein there is little or no vegetation. The canon slopes to the mesas have the characteristics of all such slopes, being broken and stony, with loose soil washed off and exposing barren adobe surface, on which there is no growth of value. At the edges of the mesas, where they break off into the canons, there are usually perpendicular sandstone ledges from 5 to 50 ft. high.

The mesas, covering about one-fourth of the township, are level and gently rolling and covered with scattering to dense, short sagebrush; there is an occasional scrub cedar or pinon, and patches of bunch grass, furnishing fair grazing. The soil, of sandy bench loam, appears as if it would yield profitably under irrigation.

The sandstone ledges and large boulders along the edges of Black Steer Park show on the exposed surface considerable solidified petroleum residue. There were seen several stakes and stone mounds indicating mineral claim monuments.

There are a number of slaty coal outcroppings among the canon breaks, near the mesa edges. None are known to have been developed.

Blue Spring, in sec. 23, is the only spring of any use in the township. This is near the main road, which bears E. and W. through the township, and furnishes very good water for stockmen and freighters, except during very dry periods. Montezuma Creek, which runs through the northwestern part of the township, furnishes a

large volume of water during seasons when snow is melting on the Blue Mountains. During midsummer and fall the bed is dry, but it is said that water can be reached at any time by digging a few feet in the creek bed, which is two to four chs. wide and three or four feet below the flats on each side.

There are no settlers in the township. Several Navajo Indians who live in T. 39 S., R. 24 E., have been grazing sheep and goats in the parks and on the mesas.

In Tps. 36 to 38 S., Rs. 24, 25 and 26 E., there are no known white settlers.

There are several Ute Indians, living up Montezuma Canon about 12 miles from the road crossing with the Montezuma Creek, who graze sheep and goats in the canon and on ridges.

These townships are nearly all in Montezuma Canon and its tributary canons, lying several hundred feet below the mesas on each side. There are apparently a few narrow mesas extending into these townships from the north, but practically all this area is in the great canon, which, except for a short distance on each side of the creek, consists of broken ridges, stony slopes, soil-washed bad lands, and dry ravines, with scattered growths of scrub cedar and pinon. There seems therefore, little of this land suitable for agricultural purposes, except along the banks of the Montezuma Creek, where the soil is loose sand, growing dense greasewood brush, indicating that it is alkaline.

Daniel B. Miller

Jos. C. Thoma

U. S. Surveyors.

4—GSO

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S., R.26 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

U. S. Surveyor.

6—2764

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for ..... bearing date of the ..... day of ....., 191 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

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

.....

U. S. Surveyor.

Subscribed by said ....., and sworn to before me this ..... day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah , March 8 , 191 6.

The foregoing field notes of the survey of the Subdivisional lines of Township No.39 South, Range No.25 East of the Salt Lake Base and Meridian, Utah

executed by their Daniel B.Miller and Joseph C.Thoma under ~~his~~ special instructions ~~dated July 24, 1912~~ dated March 26,1912 and supplemental , having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

A.O.Thoresen

U. S. 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.

.....

U. S. Surveyor General.

6—2761

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Filed July 1, 1913.
Re-filed Jan. 18, 1916.

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BOOK A-413

N

FIELD NOTES

and Retracement
OF THE SURVEY OF THE

SUBDIVISION LINES

OF

T. 36 S. R. 22 E.

Of the Salt Lake Base and *Meridian,*

n the State of UTAH

EXECUTED BY

DANIEL B. MILLER AND JOS. C. THOMA

n the capacity of U. S. Surveyors, under instructions dated March 26 *, 191*2,
nd supplemental special instructions dated July 24, 1912
ssued by the United States Surveyor General to govern surveys included in

roup No. 16 *, which were approved by the Commissioner of the General Land*

ffice, April 2 and Aug. 3, *, 191* 2 respectively.

Survey commenced August 19 *, 191* 2

Survey completed September 5 *, 191* 2

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BOOK A-413

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SUBDIVISION OF T. 36 S. R. 22 E.

Chains

Survey commenced August 27, 1912, and executed with the instrument described in book "A" of this group.

August 27: At 3h 01m p.m., l.m.t., I set off 37°27' on the lat. arc and 9°58'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 2, 3, 10 and 11, which is a sandstone 12x6x12 ins. above surface, loosely set, properly marked and witnessed as described by the Surveyor General.

I set the corner firmly in the ground; thence I run N.0°01'W. bet. secs. 2 and 3.

Ascending mesa through scattering cedars.

12.00 Top of ascent of ridge. Cedars become dense.

13.00 Abrupt descent of S. slope into Johnson Canon, over a series of ridges and ravines.

31.44 Intersect the Seventh Standard Parallel 29.82 chs. E. of the Standard corner of secs. 34 and 35, T. 35 S. R. 22 E., set by me August 22, under this assignment and heretofore described.

At the point of intersection I set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the closing corner of secs. 2 and 3, with brass cap marked

T 35 S R 22 E
S 34 | S 35
CC
S 3 | S 2
T 36 S | R 22 E
1912

from which

A cedar, 14 ins. in diam., bears S.17°E., 22 lks. dist. marked T 36 S R 22 E S 2 BT CC

A cedar, 12 ins. in diam., bears S.28°00'W., 46 lks. dist. marked T 36 S R 22 E S 3 BT CC

I project this line N.0°01'W. and at 40.00 chs. find no ¼ sec. cor. or any evidence of the same after a wide and diligent search in the timber surrounding the point.

Land broken. Soil stony 4th rate. Timber cedar and pinon. Undergrowth sagebrush and greasewood. Scant grazing.

August 27, 1912.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

From the corner of secs. 3, 4, 9 and 10, which is a sandstone 12x6x12 ins. above ground, loosely set, marked and witnessed as described by the Surveyor General, I set the corner firmly in place.

Thence

N.0°01'W. bet. secs. 3 and 4.

Ascending the W. slope of canon over broken surface throug dense cedars.

25.00 Leave cedars, enter sagebrush bearing NE. and SW.

31.36 Intersect the Seventh Standard Parallel South 29.12 chs. E. of the standard corner of secs. 33 and 34, set by me August 22, under this assignment, and heretofore described.

At the point of intersection I set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the closing cor. of secs. 3 and 4, with brass cap marked

T 35 S R 22 E
S 33 | S 34
CC
S 4 | S 3
T 36 S | R 22 E
1912

raise a mound of stone 2 ft. base, 1½ ft. high S. of the cor.

I project this line N.0°02'W. and at 40.00 chs. in dense timber, find no ¼ sec. cor. or any evidences thereof, after diligent search in a wide area.

Land broken. Soil stony 4th rate. Timber cedar and pinon. Undergrowth sagebrush and greasewood. Scant glazing.

August 27, 1912.

Jos. C. Thoma
U.S. Surveyor.

August 20: At 2h 33m p.m., apparent time, I set off 37° 38' on the lat. arc and 12°22'N. on the decl. arc, and determine a meridian at the cor. of secs. 4, 5, 32 and 33 on the S. bdy. of the Tp., which is a sandstone 8x8 x16 ins. firmly set and marked and witnessed as describe by the Surveyor General.

Thence I run

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	N.0°03'W. bet. secs. 32 and 33.
	Over broken canon side, through dense cedar and pinon timber, gradually descending into canon.
10.00	Bottom of canon wash, 20 lks. wide, 2 ft. deep, course SE.
	Ascend along steep E. side of canon over broken side, through scattering cedar and pinon.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone on stone base for the ¼ sec. cor., with brass cap marked ¼ S 32 | S 33 1912 from which A sandstone boulder, 10x15x6 ft., marked X and B O bears N.85°E., 61 lks. dist. A cedar, 8 ins. in diam., bears S.30°W., 38 lks. dist. marked ¼ S 32 B T.
60.00	Top rim of canon bearing N.10°W. and SE., on mesa point, from E. projects W. Thence across mesa point over broken surface.
77.00	Leave mesa, thence over rim rock bears N.20°E. and W. Precipitous descent into canon.
78.50	Wash in canon, 10 lks. wide, 2 ft. deep, 50 ft. below top of rim, drains SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the earth and stone on bed rock, for the cor. of secs. 28, 29, 32 and 33, with brass cap marked T 36 S R 22 E S 29 | S 28 S 32 | S 33 1912 from which A box elder, 8 ins. in diam., bears N.81°30'E., 100 lks. dist. marked T 36 S R 22 E S 28 BT. A cedar, 12 ins. in diam., bears S.4°E., 125 lks. dist. marked T 36 S R 22 E S 33 BT. A cedar, 10 ins. in diam., bears S.13°30'W., 67 lks. dist. marked T 36 S R 22 E S 32 BT.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	A sandstone boulder 10x4x4 ft. marked X and B O, bears N.49°30'W., 26 lks. dist.
	Land broken.
	Soil stony, poor 4th rate. Scant grazing.
	Timber cedar and pinon with scattering box elder.
	Undergrowth some brier and buck brush in canon.
	Thence
	S.89°58'E. on random line bet. secs. 28 and 33.
40.00	Set temp. ¼ sec. cor.
80.08	Intersect the N. and S. line, 38 lks. N. of the cor. of secs. 27, 28, 33 and 34 which is a sandstone 6x7x12 ins. above ground firmly set and marked and witnessed as described by the Surveyor General.
	Thence
	N.89°42'W. on true line bet. secs. 28 and 33.
	Over broken mesa surface, through dense cedar and pinon timber. Descend E. side of deep gulch.
1.00	Wash, 5 lks. wide, 2 ft. deep, dry, course S.25°W. Ascend 60 ft. on steep E. side of gulch.
4.00	Top of ascent to rim, bears N. and S.25°W. over rolling surface.
8.00	Wood road bears N. and S.
40.04	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 28 / S 33 1912 from which
	A cedar, 10 ins. in diam.,bears N.20°E., 36 lks. dist. marked ¼ S 28 B T.
	A cedar, 8 ins. in diam.,bears S.10°W., 17 lks. dist. marked ¼ S 33 B T.
	Gradually descend.
50.00	Draw, 8 lks. wide, drains S.10°W.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
76.00	Descend over rim rock 60 ft. high into canon bearing NE. and SW.
79.75	Canon wash, 5 lks. wide, course SW.
	A small spring of pure water on line.
80.08	The cor. of secs. 28, 29, 32 and 33.
	Land broken and rolling.
	Soil sandy loam and stony, 1st to poor 4th rate.
	Timber dense cedar and pinon.
	At this cor. at 3h 57m p.m., l.m.t. I set off 37°39' on the lat. arc and 12°24'N. on the decl. arc, and find the meridian thus secured agrees with the lines run this afternoon. Not on line until 1h 30m p.m., therefore no lat. observation taken this day.
	August 20, 1914.
	August 21: At 10h 33m a.m., apparent time, I set off 37° 39' on the lat. arc and 12°05'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 28, 29, 32 and 33.
	Thence I run
	N.0°03'W. bet. secs. 28 and 29.
	Ascend SE. slope of canon through very dense cedar and pinon timber.
1.30	Head of canon bears SW. Gradually ascend over rolling mesa.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 29 | S 28
	1912
	from which
	A cedar, 7 ins. in diam., bears N.77°30'W., 31 lks. dist. marked ¼ S 29 B T.
	A cedar, 10 ins. in diam., bears N.75°E., 24 lks. dist. marked ¼ S 28 B T.
66.50	Enter sagebrush bearing E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 20, 21, 28 and 29,

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

with brass cap marked

T 36 S R 22 E
S 20 | S 21
S 29 | S 28
1912

from which

A cedar, 16 ins. in diam., bears N.28°E.,
11 lks. dist. marked T 36 S R 22 E S 21 BT.
A cedar, 24 ins. in diam., bears S.72°E.,
128 lks. dist. marked T 36 S R 22 E S 28 B T.
A cedar, 16 ins. in diam., bears S.27°W.,
14 lks. dist. marked T 36 S R 22 E S 29 B T.
A cedar, 17 ins. in diam., bears N.70°W.,
72 lks. dist. marked T 36 S R 22 E S 20 B T.

Land broken and rolling.

Soil sandy bench loam on mesa, 1st rate if irrigated, stony and poor in canon.

Timber dense cedar and pinon. Scant grazing.

August 21: At apparent noon I set off 12°04'N. on the decl. arc and observe the sun on the meridian; the observed reading of the lat. arc, is 37°40'.

From the cor. of secs. 20, 21, 28 and 29, I run S.89°42'E. on random line bet. secs. 21 and 28.

40.00 Set temp. ¼ sec. cor.

80.09 Intersect the N. and S. line 26 lks. S. of the cor. of secs. 21, 22, 27 and 28 which is a granite 9x6x7 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General.

Thence

N.89°53'W. on true line bet. secs. 21 and 28.

Over broken surface, through dense cedar and pinon timber. Gradually ascend.

40.04½ Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked.

¼
S 21
S 28
1912

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	from which
	A cedar, 16 ins. in diam., bears N.7°E., 68 lks. dist. marked ¼ S 21 B T.
	A cedar, 10 ins. in diam., bears S.24°W., 8 lks. dist. marked ¼ S 28 B T.
	Leave stony surface and enter sandy loam.
52.00	Sagebrush opening, 6.00 chs. wide, extends N.15.00 chs. and S.10.00 chs.
58.00	Leave same; enter timber.
63.00	Leave timber, enter sagebrush opening, extends N.15.00 chs. and S.25.00 chs.
80.09	The cor. of secs. 20, 21, 28 and 29.
	Land rolling.
	Soil sandy bench loam, 1st rate if irrigated; stony 4th rate in east ½ mile.
	Timber cedar and pinon. Scant grazing.
	Undergrowth sagebrush.
	At this cor. at 2h 33m p.m., l.m.t., I set off 37°40' on the lat. arc and 12°02'N. on the decl. arc, and determine a meridian.
	August 21, 1912
	August 23: At 9h 30m a.m., apparent time, I set off 37° 40' on the lat. arc and 11°26'N. on the decl. arc, and determine a meridian at the cor. of secs. 20, 21, 28 and 29.
	Thence I run
	N.0°03'W. bet. secs. 20 and 21.
	Over rolling surface, through very dense cedar and pinon.
40.00	Set an iron post 3 ft. long, 1 in. in dia., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 20 | S 21 1912
	from which
	A pinon, 8 ins. in diam., bears S.44°W., 71 lks. dist. marked ¼ S 20 B T.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	A pinon, 8 ins. in diam., bears S.65°E.,
	50 lks. dist. marked ¼ S 21 B T.
44.00	Small draw, course SW., dry.
55.00	Draw, 50 lks. wide, course SW., dry.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 16, 17, 20 and 21, with brass cap marked

T 36 S R 22 E
S 17 | S 16
S 20 | S 21
1912

from which

A cedar, 10 ins. in diam., bears N.10°E.,
42 lks. dist. marked T 36 S R 22 E S 16 B T.
A pinon 4 ins. in diam., bears S.35°E.,
20 lks. dist. marked T 36 S R 22 E S 21 B T.
A pinon 8 ins. in diam., bears S.66¾°W.,
133 lks. dist. marked T 36 S R 22 E S 20 B T.
A pinon, 8 ins. in diam., bears N.53°W.,
82 lks. dist. marked T 36 S R 22 E S 17 B T.

Land rolling.

Soil sandy bench loam and gravelly, 1st rate if irrigated.

Timber cedar and pinon.

August 23, 1912.

August 26: At 2h 02m p.m., l.m.t., I set off 37°40'30" on the lat. arc and 10°20'N. on the decl. arc, and determin a meridian with the solar at the cor. of secs. 16, 17, 20 and 21.

Thence I run

S.89°53'E. on random line bet. secs. 16 and 21.

40.00	Set temp. ¼ sec. cor.
79.84	Intersect the N. and S. line 2 lks. S. of the cor. of secs 15, 16, 21 and 22 which is a sandstone 5x7x8 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General.

Thence

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	N.89°54'W. on true line bet. secs. 16 and 21.
	Over broken surface, through scattering cedar and pinon.
	Descend canon, E. side, over broken canon surface, course SE.
15.00	At forks of two small canons draining SE. A small spring of good clear water on line, another about 15.00 chs. N.
39.92	set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone on stone surface, for the ¼ sec. cor. with brass cap marked
	¼ S 16 / S 21 1912
	from which
	A cedar, 6 ins. in diam., bears N.3¼°E., 300 lks. dist. marked ¼ S 16 B T.
	A cedar, 7 ins. in diam., bears S.36°E., 67 lks. dist. marked ¼ S 21 B T.
	Leave scattering cedar and pinon at ¼ sec. cor.
	Enter dense cedar and pinon timber.
48.00	Leave same, enter opening. Thence over gravelly ridge. Ascend.
60.00	Top of ridge bearing N. and S. Descend.
70.00	Wash, dry, 10 lks. wide, course S.
79.84	The cor. of secs. 16, 17, 20 and 21.
	Land rolling and broken.
	Soil stony and gravelly, 4th rate.
	Timber cedar and pinon 48.00 chs.
	Scant grazing.
	August 26, 1912.
	August 23: At 2h 03m p.m., l.m.t., I set off 37°40'30" on the lat. arc and 11°22'N. on the decl. arc, and determine a meridian at the cor. of secs. 16, 17, 20 and 21.
	Thence I run
	N.0°03'W. bet. secs. 16 and 17.
	Descending through dense cedar and pinon timber.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 17 | S 16 1912 from which A pinon, 10 ins. in diam., brs. N.89°E., 35 lks. dist. marked ¼ S 16 B T. A cedar, 12 ins. in diam., bears S.70°W., 64 lks. dist. marked ¼ S 17 BT. Continue over rolling rocky surface.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 8, 9, 16 and 17, with brass cap marked T 36 S R 22 E S 8 | S 9 S 17 | S 16 1912 from which A cedar, 6 ins. in diam., bears N.26°30'E., 67 lks. dist. marked T 36 S R 22 E S 9 B T. A pinon, 18 ins. in diam., bears S.53°E., 145 lks. dist. marked T 36 S R 22 E S 16 B T. A pinon, 6 ins. in diam., bears S.66°45'W., 139 lks. dist. marked T 36 S R 22 E S 17 B T. A pinon, 12 ins. in diam., bears N.77°30'W., 143 lks. dist. marked T 36 S R 22 E S 8 B T. Land rolling. Soil stony, thin, 2nd to 4th rate. Timber cedar and pinon. Scant grazing. The sun was obscured by clouds at noon, impossible to take lat. observation.
	Thence S.89°54'E. on random line bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
79.53	Intersect the N. and S. line, 34 lks. S. of the cor. of secs. 9, 10, 15 and 16 which is a sandstone 6x8x7 ins.

SUBDIVISION T. 36 S. R. 22 E.

Chains	
	above ground, marked and witnessed as described by the Surveyor General.
	Thence
	S.89°51'W. on true line bet. secs. 9 and 16.
	Over rolling surface, through scattering cedar and pinon. Descend gradually.
20.00	Swale drains SW. Ascend.
31.50	Top of ridge bearing N. and S. Descend.
39.40	Dim wagon trail bearing NW. and S. at foot of descent. Ascend gradually.
39.76½	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in mound of stone and earth on bed rock, for the ¼ sec. cor. with brass cap marked
	¼ S 9 / S 16 1912
	No suitable trees in marking distance, raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
60.00	Top of ridge bearing N. and S. Descend.
71.50	Swale drains S. Gentle ascent.
79.53	The cor. of secs. 8, 9, 16 and 17.
	Land rolling.
	Soil poor gravelly and stony, 3rd and 4th rate.
	Timber scattering cedar and pinon. Scant grazing.
	NOTE: There are several pole and brush wickiups used by Indians in summer, while grazing sheep and ponies, and for camping places between the Navajo Reservation and Blue Mountains to the north. These are situated near the center of sec. 16.
	I rechained the line between secs. 9 and 16 and found the first chaining correct.
	August 23, 1912.

August 24: At 10h 12m a.m., l.m.t., I set off 37°41'30" on the lat. arc and 11°05'N. on the decl. arc, and determine

SUBDIVISIONS OF T. 36 S. R. 22 E.

Chains	
	a meridian at the cor. of secs. 8, 9, 16 and 17.
	Thence I run
	N.0°03'W. bet. secs. 8 and 9.
	Over rolling surface, through dense cedar and pinon timbe
20.00	Leave live timber, enter burnt timber,
	Descend gradually.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone on bed rock for the ¼ sec. cor. with brass cap marked
	¼ S 8 | S 9 1912
	from which
	A cedar, 6 ins. in diam., bears S.39°30'E., 368 lks. dist., marked ¼ S 9 B T.
	A pinon, 12 ins. in diam., bears N.88°30'W., 358 lks. dist. marked ¼ S 8 B T.
40.25	Draw, dry, 15 lks. wide, course S.10°W.
	Ascend gradually.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 4, 5, 8 and 9, with brass cap marked
	T 36 S R 22 E S 5 | S 4 S 8 | S 9 1912
	from which
	A pinon, 8 ins. in diam., bears N.45°E., 48 lks. dist. marked T 36 S R 22 E S 4 B T.
	A cedar, 6 ins. in diam., bears S.50°E., 59 lks. dist. marked T 36 S R 22 E S 9 B T.
	A cedar, 6 ins. in diam., bears S.54°W., 179 lks. dist. marked T 36 S R 22 E S 8 B T.
	A cedar, 10 ins. in diam., bears N.41°W., 236 lks. dist. marked T 36 S R 22 E S 5 B T.
	Land rolling.
	Soil gravelly and sandy bench loam, 1st to 4th rate.
	Timber dense cedar and pinon 20.00 chs.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	Open and dead timber 60.00 chs.
	August 24: At apparent noon I set off 11°03'N. on the decl. arc, and observe the sun on the meridian at the cor. of secs. 4, 5, 8 and 9; the reading of the lat. arc is 37°42'30" which is approximately correct.
	N.89°51'E. on random line bet. secs. 4 and 9.
40.00	Set temp. ¼ sec. cor.
79.15	Intersect the N. and S. line 5 lks. N. of the cor. of secs. 3, 4, 9 and 10, hereafter described.
	Thence
	S.89°53'W. on true line bet. secs. 4 and 9.
	Over rolling land through scattering cedar and pinon timber. Gradually descend.
12.00	The E. side of opening to swale, draining south.
15.00	Center of swale draining S.
18.00	W. edge of opening, enter cedar and pinon timber, scattering.
25.00	W. edge of mesa bearing N. and S.
	Descend through dense timber.
31.00	Bottom of descent, a dry draw, course S.
	Ascend steep W. slope.
39.15	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 4 / S 9 1912
	from which
	A cedar, 8 ins. in diam., bears N.10°E., 10 lks. dist. marked ¼ S 4 B T.
	A cedar, 4 ins. in diam., bears S.5°W., 6 lks. dist. marked ¼ S 9 B T.
51.00	Spur projects S. Descend.
59.00	Draw, course S., dry. Ascend over broken surface.
79.15	The cor. of secs. 4, 5, 8 and 9.
	Land rolling and broken.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

Soil poor and gravelly, 4th rate.

Timber cedar and pinon. Scant grazing.

At this cor. at 3h 32m p.m., l.m.t., I set off 37°42'30" on the lat. arc, and 11°00'30"N. on the decl. arc and find a meridian so determined agrees with my lines.

August 24, 1912.

Sept. 5: At 2h 05m p.m., l.m.t., I set off 37°42'30" on the lat. arc, and 6°42'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 4, 5, 8 and 9.

Thence I run

N.0°03'W. bet. secs. 4 and 5.

Over rolling surface, through very scattering cedar and pinon timber and short sagebrush undergrowth.

24.00 Descend into wash, dry, 15 lks. wide, drains SW.

31.66 Intersect the Seventh Standard Parallel South, 30.18 chs. E. of the standard cor. of secs. 32 and 33 T. 35 S. R. 22 E. set by Jos. C. Thoma, U.S. Surveyor, Aug. 23, under this assignment, and heretofore described.

At the point of intersection, I set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in mound of stone and earth on bed rock, for the closing cor. of secs. 4 and 5, with brass cap marked

T 35 S R 22 E
S 32 | S 33
C C
S 5 | S 4
T 36 S
1912

No trees in distance for marking, raise a mound of stone 2 ft. base, 1½ ft. high S. of the cor.

Land rolling.

Soil gravelly and sandy bench loam, 1st to 4th rate.

Scant grazing. Undergrowth short sagebrush.

Timber cedar and pinon. September 5, 1912.

August 22: At 9h 33 m a.m., l.m.t., I set off 37°38' on

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	the lat. arc and 11°47'N. on the decl. arc, and determine a meridian at the cor. of secs. 5, 6, 31 and 32 on S. bdy. of the Tp., which is a sandstone 8x7x10 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General.
	Thence
	N.0°03'W. bet. secs. 31 and 32.
	Gradual ascent of SW. slope, through very dense sagebrush, and scattering cedar and pinon timber.
16.00	Leave sagebrush and enter very dense cedar and pinon.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in mound of stone and earth on bed rock for the ¼ sec. cor. with brass cap marked ¼ S 31 | S 32 1912 from which A cedar, 24 ins. in diam., bears S.8°E., 101 lks. dist. marked ¼ S 32 B T. A cedar, 14 ins. in diam., bears S.60°W., 88 lks. dist. marked ¼ S 31 B T.
	Continue gradual ascent.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 29, 30, 31 and 32, with brass cap marked T 36 S R 22 E S 30 | S 29 S 31 | S 32 1912 from which A cedar, 6 ins. in diam., bears N.74°30'E., 50 lks. dist. marked T 36 S R 22 E S 29 B T. A pinon, 10 ins. in diam., bears S.30°E., 59 lks. dist. marked T 36 S R 22 E S 32 B T. A pinon, 10 ins. in diam., bears S.47°30'W., 48 lks. dist. marked T 36 S R 22 E S 31 B T. A cedar, 14 ins. in diam., bears N.28°30'W., 44 lks. dist. marked T 36 S R 22 E S 30 B T.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	Land rolling.
	Soil sandy bench loam, 1st rate if irrigated.
	Timber dense cedar and pinon.
	Undergrowth sagebrush. Scant grazing.
	Thence I run
	S.89°58'E. on random line bet. secs. 29 and 32.
40.00	Set temp. ¼ sec. cor.
80.07	Intersect the N. and S. line, 45 lks. N. of the cor. of secs. 28, 29, 32 and 33.
	Thence
	N.89°39'W. on true line bet. secs. 29 and 32.
	Over canon bottom land badly broken, through dense cedar and pinon timber.
3.00	Point of mesa projects S. Descend.
6.00	Canon heads 3.00 chs. N. Ascend.
8.00	Mesa point projects SE. Descend.
10.00	Small canon course SE. Ascend.
20.00	Mesa point projects SE. Descend.
25.00	Canon wash, 15 lks. wide, a spring on line, flows SE. Ascend.
40.03½	On point of mesa among huge boulders.
	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in mound of stone and earth on bed rock for the ¼ sec. cor. with brass cap marked
	¼ S 29 / S 32 1912
	from which
	A sandstone ledge marked X and B O bears N.50°E., 22 lks. dist.
	A sandstone ledge marked X and B O bears North, 40 lks. dist.
42.60	A canon wash, 20 lks. wide, course S. dry.
	Wash heads 100 lks. N.
	Ascend gradually.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
44.00	Edge of mesa. Ascend over rim rock bearing N. and S.
80.07	The cor. of secs. 29, 30, 31 and 32.
	Land broken.
	Soil stony, poor 4th rate.
	Timber cedar and pinon. Scant grazing.
	The sun was obscured by clouds at noon today. No lat. observation possible.
	August 22, 1912.
	August 28: At the cor. of secs. 29, 30, 31 and 32 at 9h 31m a.m., l.m.t., I set off 37°39' on the lat. arc, and 9°42'N. on the decl. arc, and determine a meridian with the solar.
	Thence I run
	N.89°58'W. on random line bet. secs. 30 and 31.
40.00	Set temp. ¼ sec. cor.
77.36	Intersect the W. bdy. of the township, 12 lks. N. of the cor. of secs. 25, 30, 31 and 36 set by me Aug. 29, 1912 and heretofore described.
	Thence
	N.89°57'E. on true line bet. secs. 30 and 31.
	Over broken canon surface.
1.00	Canon wash in bottom of deep canon, drains S., clear water 2 ins. deep, 4 lks. wide, from a spring about 4.00 chs. N. of line.
	Ascend over very broken canon side.
13.50	Head of box canon, 5.00 chs. wide, course S.
	Ascend over series of small ridges and rocky draws, draining S.
28.50	Top of ascent on ridge bearing N. and S. 150 ft. above canon. Descend.
32.50	Wash dry, 5 lks. wide, drains S. Ascend.
37.36	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 30 / S 31 1912

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	No trees in distance suitable for marking, raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
40.00	Top of ridge bearing N. and S. Descend.
43.00	E. edge of mesa. Descend over ledges into canon.
51.50	Canon wash, dry, drains S. Ascend over broken surface.
55.75	Top of ascent, 150 ft. above canon wash.
	Thence over rolling mesa through dense cedar and pinon.
77.36	The cor. of secs. 29, 30, 31 and 32.
	Land broken.
	Soil washed canon sides, poor 4th rate.
	Timber scrub cedar and pinon.
	Scant grazing.
	August 28, 1912,
	Daniel B. Miller
	U.S.Surveyor.

September 2: At 10h a.m.,l.m.t., I set off 37°39' on the lat. arc and 7°54'N. on the decl. arc, and determine a meridian at the cor. of secs. 29, 30, 31 and 32, set by Daniel B. Miller, U.S.Surveyor, under this assignment August 22.

Thence I run

N.0°03'W. bet. secs. 29 and 30.

Over level mesa surface in dense scrub cedar and pinon timber.

36.00	Descend N. slope of mesa.
39.50	Draw, dry, draining W. Ascend.
40.00	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked

S 30 ¼ | S 29

1912

from which

A pinon, 10 ins. in diam.,bears N.70°E., 51 lks. dist. marked ¼ S 29 B T.

A pinon, 12 ins. in diam.,bears S.40°W., 63 lks. dist. marked ¼ S 30 B T.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
47.00	Top of mesa.
57.30	Descend S. slope of canon bearing S.40°W.
62.75	Point of mesa, continue E. slope of canon over huge sandstone boulders.
80.00	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the cor. of secs. 19, 20, 29 and 30, with brass cap marked

T 36 S R 22 E
S 19 | S 20
S 30 | S 29
1912

from which

A pinon, 12 ins. in diam.,bears N.58°00'E., 35 lks. dist. marked T 36 S R 22 E S 20 B T.

A pinon 8 ins. in diam.,bears S.24°00'E., 28 lks. dist. marked T 36 S R 22 E S 29 B T.

A pinon 10 ins. in diam.,bears S.77°00'W., 50 lks. dist. marked T 36 S R 22 E S 30 B T.

A pinon 6 ins. in diam.,bears N.34°00'W., 19 lks. dist. marked T 36 S R 22 E S 19 B T.

September 2, 1912.

September 3: At 9h 30m a.m.,l.m.t., I set off 37°40' on the lat. arc and 7°32'N. on the decl. arc and determine a meridian at the cor. of secs. 19, 20, 29 and 30.

Thence I run

S.89°39'E. on random line bet. secs. 20 and 29.

40.00	Set temp. ¼ sec. cor.
79.80	Intersect the N. and S. line 7 lks. S. of the cor. of secs. 20, 21, 28 and 29.

Thence

N.89°42'W. on true line bet. secs. 20 and 29.

Over level mesa, through dense cedar and pinon.

8.00	Surface becomes rolling, timber becomes scattered.
35.00	Descend E. slope of canon over broken surface.
39.90	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the earth for the ¼ sec. cor. with brass cap marked

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	S $\frac{1}{4}$ 20 S 29 1912
	raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of the cor.
44.00	Foot of descent in canon, dry, course S.
	Begin ascent.
56.00	Top of ascent on rimrock, over rolling mesa.
60.00	Top of mesa. Gradual descent.
78.00	Cross small canon, 150 lks. wide, dry, draining S.
79.80	Intersect the cor. of secs. 19, 20, 29 and 30.
	Land level and rolling on mesa, broken in canon.
	Soil loose sandy bench loam on mesa, poor stony 4th rate in canon.
	Timber dense and scattered cedar and pinon 80.00 chs.
	At this cor. at apparent noon I set off 7°30'N. on the decl. arc, and observe the sun on the meridian; the obtained lat. is 37°40' which is approximately correct.
	Sept. 3, 1912.
	Thence I run
	S.89°57'W. on random line bet. secs. 19 and 30.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
77.01	Intersect the W. bdy. of the Tp. 27 lks. S. of the cor. of secs. 19, 24, 25 and 30, set by D. B. Miller, August 29, and heretofore described.
	Thence
	S.89°51'E. on true line bet. secs. 19 and 30.
	Over rolling mesa in dense cedar and pinon.
20.00	West side of canon. Descend into same over broken surface course S. dry.
23.00	E. rim of canon over timbered mesa.
37.01	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked
	S $\frac{1}{4}$ 19 S 30 1912

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	from which
	A pinon, 6 ins. in diam., bears N.45°30'E., 49 lks. dist. marked ¼ S 19 B T.
	A pinon, 14 ins. in diam., bears S.16°W., 60 lks. dist. marked ¼ S 30 B T.
36.00	Top of mesa, slight descent.
43.00	W. edge of canon, over rimrock. Descend into canon over broken surface.
48.80	Bottom of canon, dry, course S. Ascend over broken surface. Two canons fork about 5.00 chs. N.
58.10	E. edge of canon; over rolling mesa.
73.00	Top of mesa, slight descent.
77.01	The cor. of secs. 19, 20, 29 and 30.
	Land on mesa rolling, in canons broken.
	Soil on mesa sandy bench loam, in canons poor stony, 4th rate.
	Timber cedar and pinon from dense to scattering.
	September 3, 1912.
	Sept. 2: At 2h p.m., l.m.t., I set off 37°40'' on the lat. arc and 7°50'N. on the decl. arc, and determine a meridian at the cor. of secs. 19, 20, 29 and 30.
	Thence
	N.0°03'W. bet. secs. 19 and 20.
	Over broken ascent of ridge, through dense cedar and pinon.
6.00	Top of ascent. Thence over level mesa.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 19 ¼ | S 20 1912
	from which
	A cedar, 30 ins. in diam., bears S.66°00'E., 16 lks. dist. marked ¼ S 20 B T.
	A pinon, 4 ins. in diam., bears N.67°W., 53 lks. dist. marked ¼ S 19 B T.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
50.00	Swale, dry, draining W.,10 chs. wide.
64.00	Swale, dry, 12 chs. wide, draining SW.
77.00	Wash, dry, 30 lks. wide, drains SW.
80.00	Set an iron post 3 ft. long, 2 ins. in diam.,24 ins. in the ground for the cor. of secs. 17, 18, 19 and 20, wit brass cap marked

T 36 S R 22 E
S 18 | S 17
S 19 | S 20
1912

from which

A pinon 3 ins. in diam.,bears N.55°E.,
85 lks. dist. marked T 36 S R 22 E S 17 B T.
A cedar, 3 ins. in diam.,bears S.68°00'E.,
50 lks. dist. marked T 36 S R 22 E S 20 B T.
A pinon 8 ins. in diam.,bears S.6°00'W.,
212 lks. dist. marked T 36 S R 22 E S 19 B T.
A pinon 4 ins. in diam.,bears N.43°00'W.,
62 lks. dist. marked T 36 S R 22 E S 18 B T.

Soil sandy bench loam on mesa, poor stony 4th rate in canons.

Land level and rolling on mesa, broken in canon.

Timber dense growth of cedar and pinon, 80.00 chs.

September 2, 1912,

Jos. C. Thoma
U.S.Surveyor.

Sept. 4: At 10h 01m a.m.,l.m.t., I set off 37°40' on the lat. arc and 7°09'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 17, 18, 19 and 20.

Thence I run

S.89°42'E. on random line bet. secs. 17 and 20.

40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.94	Intersect the N. and S. line 24 lks. S. of the cor. of sec 16, 17, 20 and 21.

Thence

N.89°52'W. on true line bet. secs. 17 and 20.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	Over rolling surface, through dense cedar and pinon timber.
1.00	Top of low ridge bearing N. and S. Descend.
8.50	Wash, dry, in swale, drains S. Ascend.
15.00	Top of ridge bearing N. and S. Descend.
21.00	Wash dry, drains S. Ascend.
24.00	Low ridge bearing N. and S. Descend.
33.00	W. edge of mesa over steep descent badly broken, into canon.
39.97	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in stone and earth in stony surface, for the 1/4 sec. cor. with brass cap marked 1/4 S 17 S 20 1912 from which A pinon 7 ins. in diam., bears N.25°00'W., 13 lks. dist. marked 1/4 S 17 B T. A pinon, 10 ins. dia., bears S.87°30'W., 52 lks. dist. marked 1/4 S 20 B T.
45.00	Canon wash, dry, 15 lks. wide, drains S. Ascend over broken surface.
58.00	Top of ascent, 200 ft. above bottom of canon. Thence over sandstone ledge to top of mesa.
60.50	Wash in box canon, 25 lks. wide, water 2 ins. deep, 5 lks. wide, flows from a clear spring in canon about 2.00 chs. N. A pack trail bet. Grayson and Bluff and Elk Mountain crosses the canon on line, bears N.70°W. and S.70°E..
79.94	The cor. of secs. 17, 18, 19 and 20.
	Land broken.
	Soil stony, 4th rate.
	Timber dense cedar and pinon. Scant grazing.
	Cloudy at noon, no lat. observation taken.

September 4, 1912,

Daniel B. Miller

U.S.Surveyor.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	Sept. 4: At 10h 01m a.m., l.m.t., I set off 37°40'30" on the lat. arc and 7°09'30"N. on the decl. arc and determine a meridian at the cor. of secs. 17, 18, 19 and 20.
	Thence I run
	N.89°51'W. on random line bet. secs. 18 and 19.
40.00	Set temp. ¼ sec. cor.
77.00	Intersect the W. bdy. of the Tp. 25 lks. N. of the cor. of secs. 13, 18, 19 and 24, heretofore described.
	Thence
	N.89°58'E. on true line bet. secs. 18 and 19.
	Over rolling mesa, through dense cedar and pinon timber.
13.00	Descend from mesa over W. edge of canon over broken surface.
20.10	Foot of descent in canon, dry, course SE. Ascend.
26.50	Top of ascent on W. edge of mesa. Thence over rolling mesa.
37.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	S 18 / ¼ / S 19 / 1912
	from which
	A cedar, 6 ins. in diam., bears N.6°00'W., 22 lks. dist. marked ¼ S 18 B T.
	A cedar, 8 ins. in diam., bears S.72°00'E., 36 lks. dist. marked ¼ S 19 B T.
77.00	The cor. of secs. 17, 18, 19 and 20.
	Land rolling on mesas, broken in canons.
	Soil sandy bench loam on mesas, poor and stony in canons.
	Timber dense to scattered cedar and pinon.
	Scant grazing, little other vegetation.
	September 4, 1912.
	Jos. C. Thoma
	U.S. Surveyor.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

Sept. 3, 1912:

N.0°03'W. bet. secs. 17 and 18.

Over rolling surface, through scattering cedar and pinon and scattering sagebrush undergrowth.

General slope SE. into canon.

30.00 Leave sagebrush, enter dense cedar and pinon timber bearing E. and W.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼ S 18 | S 17
1912

from which

A pinon, 10 ins. in diam., bears N.60°E., 12 lks. dist. marked ¼ S 17 B T.

A pinon, 8 ins. in diam., bears N.41°30'W., 26 lks. dist. marked ¼ S 18 B T.

50.00 Descend gradually.

62.00 Wash, dry, 100 lks. wide, drains E.

Ascend gradually.

80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 7, 8, 17 and 18, with brass cap marked

T 36 S R 22 E
S 7 | S 8
S 18 | S 17
1912

from which

A cedar, 12 ins. in diam., bears N.65°E., 94 lks. dist. marked T 36 S R 22 E S 8 B T.

A pinon, 10 ins. in diam., bears S.41°E., 53 lks. dist. marked T 36 S R 22 E S 17 B T.

A cedar, 14 ins. in diam., bears S.58°W., 68 lks. dist. marked T 36 S R 22 E S 18 B T.

A pinon, 6 ins. in diam., bears E.12°W., 33 lks. dist. marked T 36 S R 22 E S 7 B T.

Land rolling.

Soil sandy bench loam, 1st rate if irrigated.

Timber cedar and pinon.

Chains	
	Undergrowth sagebrush.
	September 3: At apparent noon I set off 7°30'N. on the decl. arc, and observe the sun on the meridian at the cor. of secs. 7, 8, 17 and 18; the observed latitude is 37°41'30" which is approximately correct.
	Thence I run
	S.89°52'E. on a random line bet. secs. 8 and 17.
40.00	Set temp. ¼ sec. cor.
79.91	Intersect the N. and S. line, 1 lk. S. of the cor. of secs. 8, 9, 16 and 17.
	Thence
	N.89°52'W. on true line bet. secs. 8 and 17.
	Over rolling mesa surface, through dense cedar and pinon.
12.00	W. edge of mesa. Thence descend over sandstone boulders.
15.00	Rim rock, 50 ft. perpendicular, bears N. and S. Descend. Thence over washed canon side, broken surface.
30.00	Canon wash, dry, 50 lks. wide, drains SW. Ascend steep rocky slope of W. side of canon. This wash is 200 ft. below the mesa.
34.00	Canon wash from NW. 100 lks. wide, dry, drains SE. to the junction of last wash 10.00 chs. SE.
39.95½	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the earth and stone for the ¼ sec. cor. with brass cap marked

$$\frac{S\ \frac{1}{4}\ 8}{\begin{matrix} S\ 17 \\ 1912 \end{matrix}}$$

from which

A pinon, 10 ins. in diam., bears S.33°E., 29 lks. dist. marked ¼ S 17 B T.

A cedar, 14 ins. in diam., bears N.72°E., 16 lks. dist. marked ¼ S 8 B T.

Continue steep ascent.

56.00	Top of ascent, 250 ft. above canon wash. Thence over rim rock 20 ft. high to timbered mesa.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
79.91	The cor. of secs. 7, 8, 17 and 18.
	Land broken and rolling.
	Soil sandy bench loam about 40.00 chs., 1st rate if irrigated; canon sides poor 4th rate about 40.00 chs.
	Timber cedar and pinon. Scant grazing.
	September 3, 1912,
	Daniel B. Miller
	U.S. Surveyor.
	September 5: At 10h 01m a.m., apparent time, I set off 37°41'30" on the lat. arc, and 6°47'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 7, 8, 17 and 18.
	Thence I run
	S.89°58'W. on random line bet. secs. 7 and 18.
40.00	Set temp. ¼ sec. cor.
76.61	Intersect the W. bdy. of the Tp. 6 lks. S. of the cor. of secs. 7, 12, 13 and 18 heretofore described.
	Thence
	S.89°59'E. on true line bet. secs. 7 and 18.
	Over rolling and broken canon surface, through scattering cedar and pinon. Descend.
25.50	Foot of descent in canon, dry, drains S.
	Ascend over a series of ridges and ravines on broken surface.
29.60	Top of ascent over ridges and ravines.
30.50	Top of ridge bearing N. and S. Descend.
35.50	Foot of descent.
36.50	Wash in canon, 50 lks. wide, dry, drains S.
	Ascend over broken land.
36.61	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

S 7
¼
S 18
1912

from which

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
	A cedar, 14 ins. in diam., bears N.32°00'E., 83 lks. dist. marked ¼ S 7 B T.
	A cedar, 12 ins. in diam., bears S.40°00'E., 38 lks. dist. marked ¼ S 18 B T.
39.60	Top of ascent over rolling mesa through dense cedar and pinon timber. Thence over series of ridges and ravines
68.50	Descend into swale.
71.00	Swale, dry, drains S. Ascend.
73.60	Top of ascent on rolling mesa.
76.61	The cor. of secs. 7, 8, 17 and 18.
	Land rolling and broken.
	Soil sandy bench loam on mesas.
	Timber dense cedar and pinon.
	September 5, 1912, Jos. C. Thoma U.S. Surveyor.
	September 3: At 2h 10m p.m., l.m.t., I set off 37°41'30" on the lat. arc and 7°28'N. on the decl. arc, and determine a meridian at the cor. of secs. 7, 8, 17 and 18.
	Thence I run
	N.0°03'W. bet. secs. 7 and 8.
	Over rolling land, through dense cedar and pinon timber.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 7 | S 8 1912 No trees in distance suitable for marking, raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
64.00	Begin descent of N. slope of mesa.
77.00	Foot of descent in swale, drains SE. Ascend gradually.
78.00	Begin ascent on N. slope of S. slope of mesa.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in stone and earth mound on bed rock, for the cor. of secs. 5, 6, 7 and 8, with brass cap marked

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

T 36 S R 22 E
S 6 | S 5
S 7 | S 8
1912

from which

A pinon, 7 ins. in diam., bears N.33°30'E., 15 lks. dist. marked T 36 S R 22 E S 5 B T.

A pinon, 8 ins. in diam., bears S.72°30'E., 6 lks. dist. marked T 36 S R 22 E S 8 B T.

A pinon, 10 ins. in diam., bears S.46°W., 43 lks. dist. marked T 36 S R 22 E S 7 B T.

A pinon 5 ins. in diam., bears N.82°15'W., 35 lks. dist. marked T 36 S R 22 E S 6 B T.

Land rolling and broken.

Soil stony and gravelly bench sandy loam, 1st to 4th rate.

Timber dense cedar and pinon.

Scant grazing.

September 3, 1912,

Daniel B. Miller
U.S.Surveyor.

Aug. 30: At 9h a.m., l.m.t., I set off 37°42'30" on the lat. arc and 9°00'N. on the decl. arc, and determine a meridian at the point where the cor. of secs. 5, 6, 7 and 8 was established by D. B. Miller, U.S.Surveyor Sept. 3, under this assignment.

Thence I run

S.89°52'E. on random line bet. secs. 5 and 8.

40.00 Set temp. ¼ sec. cor.

80.01 Intersect the N. and S. line 37 lks. S. of the cor. of secs. 4, 5, 8 and 9.

Thence

S.89°52'W. on true line bet. secs. 5 and 8.

Over broken surface through dense cedars and pinon timber. Ascend to mesa.

1.00 On mesa in dense cedar and pinon timber, rolling surface.

16.00 Begin descent from mesa over steep slope, broken ridges and ravines.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains	
40.01	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 5 ¼ S 8 1912 from which A cedar, 18 ins. in diam., bears S.20°00'E., 15 lks. dist. marked ¼ S 8 B T. A pinon, 18 ins. in diam., bears N.58°00'W., 13 lks. dist. marked ¼ S 5 B T.
41.00	Wash, in canon, dry, 50 lks. wide, drains SE.
42.00	Begin abrupt ascent over a series of ridges and ravines.
51.00	Top of ascent of E. slope of canon, over rolling mesa.
60.00	Descend from mesa on W. slope of canon.
61.25	Foot of descent in canon wash, dry, drains S.
65.75	Over wash, ascending E. slope of canon.
72.00	Top of ascent over mesa.
80.01	The cor. of secs. 5, 6, 7 and 8.
	Land rolling and broken.
	Soil sandy bench loam on mesas, poor stony 4th rate in canons.
	Timber cedar and pinon.
	August 30: At apparent noon I set off 8°57'N. on the lat arc and observe the sun on the meridian; the obtained lat. is 37°42'30" which is correct nearly.
	Thence I run
	N.89°59'W. on random line bet. secs. 6 and 7.
40.00	Set temp. ¼ sec. cor.
	August 30, 1912.
	Sept. 2, 1912
76.52	Intersect the W. bdy. of Tp. 4 lks. S. of the corner set for sec. 1, 6, 7 and 12, heretofore described.
	Thence
	S.89°57'E. on true line bet. secs. 6 and 7.
	Over open level surface.

SUBDIVISION T. 16 S. R. 22 E.

Chains	
7.50	Leave flats, thence over a series of ridges and ravines, ascending.
20.00	Top of ascent over rimrock 40 ft. high bears N. and S. Thence over mesa in dense cedar and pinon timber.
36.52	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼
S 6
———
S 7
1912

from which

A cedar, 18 ins. in diam., bears N.18°00'E., 12 lks. dist. marked ¼ S 6 B T.

A cedar, 18 ins. in diam., bears S.27°00'E., 34 lks. dist. marked ¼ S 7 B T.

43.50	Cedar and pinon becomes scattered, bears N. and S.
44.50	Wash, dry, 2.00 chs. wide, 2 ft. deep, drains S.
46.50	E. side of wash. Ascend.
73.50	Top of ascent. Descent bears N. and S.
75.50	Wash, dry, 50 lks. wide, 2 ft. deep, drains S.
76.52	The cor. of secs. 5, 6, 7 and 8.

Land rolling and broken.

Soil sandy bench loam on mesas, poor stony 4th rate.

Timber cedar and pinon, scattering to dense, 56.52 chs.

Sept. 2, 1912,

Jos. C. Thoma
U.S. Surveyor.

September 5: At 10h a.m., at the cor. of secs. 5, 6, 7 and 8, the sun being obscured by clouds, I sight a flag on the line bet. secs. 7 and 8, and prolong my line therefore

N.0°03'W. bet. secs. 5 and 6.

Ascending ridge through dense cedar and pinon.

8.00	W. rim of canon is 7.00 chs. E. of the line.
10.00	The E. rim of a canon W. of the line 3.00 chs.
31.50	Intersect the Seventh Standard Parallel South 30.05 chs. E.

SUBDIVISIONS T. 36 S. R. 22 E.

Chains

of the standard corner of secs. 31 and 32 T. 35 S. R. 22 E. set by Jos. C. Thoma, U.S.Surveyor, Aug. 26, under this assignment.

At the point of intersection I set an iron post 3 ft. long 2 ins. in diam., 24 ins. in the ground for the closing cor. of secs. 5 and 6, with brass cap marked

T 35 S R 22 E
S 31 S 32

CC
S 6 S 5
T 36 S
1912

from which

A pinon, 7 ins. in diam., bears S.75°30'E., 40 lks. dist. marked T 36 S R 22 E S 5 B T.

A cedar, 8 ins. in diam., bears S.81°W., 24 lks. dist. marked T 36 S R 22 E S 6 B T.

Land broken and rolling.

Soil stony and gravelly, 4th rate.

Timber cedar and pinon.

Scant grazing.

September 5, 1912.

Daniel B. Miller
U.S.Surveyor.

RETRACEMENT SUBDIVISION T.36 S.R.22 E.

For the purpose of accounting for the misclosure of the lines around sec. 16, I retrace the line bet. secs. 15 and 16 run by A.P.Hanson, U.S.Deputy Surveyor, under his contract No. 282.

August 26: At 2h 10m p.m., l.m.t., I set off 37°40'30" on the lat. arc and 10°20'N. on the decl. arc, and determine a meridian at the cor. of secs. 15, 16, 21 and 22 heretofore described.

Thence I run

North on retracement bet. secs. 15 and 16.

40.51 The old ¼ sec. cor. is 55 lks. W. of my line and is a granite stone 10x8x6 ins. above ground, firmly set and

RETRACEMENT SUBDIVISION T.36 S. R. 22 E.

Chains	
	marked and witnessed as described by the Surveyor General.
80.55	The old cor. of secs. 9, 10, 15 and 16, heretofore described is 55 lks. W. of my line.
	The bearing of the S. ½ of this line is therefore N.0° 47'W. and dist. 40.51 chs; and the north ½ is North and the dist. 40.04 chs.
	August 26, 1912.
	Daniel B. Miller, U.S. Surveyor.
	For the purpose of verifying an apparent misclosure developed by my lines on the E. N. and W. bdy. of sec. 3, I retrace the line bet. secs. 3 and 10 surveyed by A.P.Hanson, U.S.Deputy Surveyor under his contract No. 282.
	August 28: At 8h a.m.,l.m.t., I set off 37°12'30" on the lat. arc and 9°44'N. on the decl. arc, and determine a meridian at the cor. of secs. 2, 3, 10 and 11.
	Thence I run
	West on retracement bet. secs. 3 and 10.
40.20	The old ¼ sec. cor. which is a sandstone 8x10x4 ins. loosely set, marked and witnessed as described by the Surveyor General.
80.80	Intersect the old cor. of secs. 3, 4, 9 and 10, which is a sandstone 12x6x12 ins. above ground, loosely set and marked and witnessed as described by the Surveyor General.
	August 28, 1912,
	Jos. C. Thoma U.S. Surveyor.

GENERAL DESCRIPTION

The W. ½ of township No 36 S. range 22 E. surveyed under this assignment is mostly timbered mesa surface, and

GENERAL DESCRIPTION

is badly cut up by deep box canons from the north to the south.

In the southern part of the township the soil on the mesa is rich looking sandy bench loam and if irrigated would produce well under cultivation. In the northern part the surface is more hilly and broken and gravelly.

The timber is cedar and pinon, mostly scrubby, but some suitable for fencing posts may be found. There are no trees fit for lumber.

There are no settlers and no improvements and little prospects of such, because the canons are impassible, except for pack trails, and renders the mesas impracticable for occupancy because of their inaccessibility.

There are numerous springs in the canons and the water is generally clear and fresh.

No evidences of minerals of any kind were noticed.

The country west of this township appears to be a series of canon breaks and fit only for grazing. This stateme may apply to the country as far as the Colorado River.

The town of Grayson centers about 200 population at the corner of secs. 26, 27, 34 and 35, and has a prosperous farming area to the N. S. and E.

North of this township are some benches or mesas that appear to have good soil, and to the NE. may be seen cultivated ranches.

Recapture canon heads a few miles to the NW.

There appears to be much broksn surface and many box canons between this township and the Blue Mountains, some 12 or 15 miles north.

Daniel B. Miller

Jos. C. Thoma

U.S. Surveyors.

4—080

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S., R.26 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

6—2761 *U. S. Surveyor.*

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursua
of special instructions received from the U. S. Surveyor General for .....
bearing date of the ..... day of ....., 191 , I have well, faithfully, and tru
in my own proper person, and in strict conformity with said instructions, the Manual of Surveyi
Instructions, and the laws of the United States, surveyed all those parts or portions of .....
.....
.....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

.....
..... of the .....
..... Meridian, in the State of ....., which are represented
the foregoing field notes as having been executed by me, and under my direction; and I do furt
solemnly swear that all the corners of said survey have been established and perpetuated in strict acco
ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. 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.

.....
U. S. Surveyor

Subscribed by said ....., and sworn to before me
this ..... day of ....., 191

SEAL

.....
.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, March 8, 191 6

The foregoing field notes of the survey of the Subdivisional lines of Townshi
No.36 South, Range No.22 East of the Salt Lake Base and Meridian,
Utah,

executed by Daniel B.Miller and Joseph C.Thoma
under ~~his~~ their special instructions dated March 26,1912, and supplemental special instructions dated July 1912 , having be
critically examined, and the necessary corrections and explanations made, the said field notes, and t
surveys they describe, are hereby approved.

A C Thoresen
U. S. 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.

.....
U. S. Surveyor General.

6—2761

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Filed July 1, 1913.

4—679

BOOK A-413
R

FIELD NOTES

OF THE SURVEY OF THE

SUBDIVISIONS

OF

T. 39 S. R. 24 E.

Of the Salt Lake Base and *Meridian,*

In the State of UTAH

EXECUTED BY

Daniel B. Miller and Jos. C. Thoma

In the capacity of U. S. Surveyors, under instructions dated March 26, *1912, issued by the United States Surveyor General to govern surveys included in Group No.* 16, *which were approved by the Commissioner of the General Land Office,* April 2, *1912*

Survey commenced September 10, *1912*

Survey completed September 22, *1912*

6—151

INDEX DIAGRAM.

Township 39 South, *Range* 24 East

6 55 54	5 42 53	4 33 41	3 22 32	2 11 21	1 10
7 52 52	8 40 51	9 31 40	10 20 30	11 8 19	12 7
18 50 50	17 39 49	16 29 38	15 18 28	14 6 17	13 6
19 48 47	20 37 47	21 27 36	22 16 26	23 4 15	24 3
30 46 45	29 35 44	28 25 34	27 14 24	26 2 13	25 2
31 43	32 34	33 23	34 12	35 1	36

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Survey commenced Sept. 10, 1912, and executed with Keuffel & Esser solar transit No. 20037 and Young & Sons solar transit No. 8146. For description and test of instruments see book "Q"
	Sept. 10: At 10h 12m a.m., l.m.t., I set off 37°22' on the lat. arc and 4°55'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 1, 2, 35 and 36 on the S. bdy. of the tp., heretofore described.
	Thence
	N.0°01'W. bet. secs. 35 and 36.
	Over open surface, along the broken slope of canon side.
38.00	Gulch, dry, 150 ft. below the sec. cor., drains W. Ascend abruptly.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone on stone bed rock, for the ¼ sec. cor. with brass cap marked ¼ S 35 | S 36 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
59.50	Top of ascent on edge of rim rock, 20 ft. high, 300 ft. above ¼ sec. cor. Ledges bear E. and W.
	There is a coal cropping about 8.00 chs. E. of the line at the base of the ledges. Gradually descend over mesa.
73.25	NW. edge of mesa, over rim rock bearing NE. and SW. Descend abruptly from mesa over broken surface.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 25, 26, 35 and 36, with brass cap marked T 39 S R 24 E S 26 | S 25 S 35 | S 36 1912 raise a mound of stone 2 ft. base 1½ ft. high W. of the cor.
	Land broken and rolling.
	Soil bare, 4th rate.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Scant grazing. Undergrowth shadscale.
	An occasional scrub cedar or pinon on mesa.
	Thence
	S.89°49'E. on random line bet. secs. 25 and 36.
40.00	Set temp. ¼ sec. cor.
80.46	Intersect the E. bdy. of the Tp. 39 lks. S. of the cor. of secs. 25, 30, 31 and 36, heretofore described.
	Sept. 10, 1912: At this cor. at apparent noon I set off 4°53'N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 37°23', which is approximately correct.
	Thence I run
	S.89°54'W. on true line bet. secs. 25 and 36.
	Over rolling open bench surface, gradually descending to Navajo Canon.
20.00	Wash, dry, 10 ft. deep, 30 lks. wide, course NW. Gradually ascend.
35.00	Begin ascent over broken canon side bearing NW. and SE.
40.23	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 25 / S 36 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
80.46	The cor. of secs. 25, 26, 35 and 36.
	Land rolling 35.00 chs., broken 45.46 chs.
	No timber. Scant grazing.
	Soil poor, thin, bare, washed surface, 4th rate.
	Thence
	N.0°01'W. bet. secs. 25 and 26.
	Over very broken surface, descending.
13.00	Base of descent 100 ft. below sec. cor. bears N.70°E. and S.70°W.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Thence over level bottom land in Montezuma Canon, through dense greasewood.
37.00	Arroyo 30 lks. wide. 5 ft. deep, course W.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S. 26 | S. 25 1912 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 the cor.
58.00	Left bank of Montezuma wash, 15 ft. high, dry, course SW. Thence along bottom of wash in elbow- leave dense greasewood bearing NE. and SW.
66.00	Ascend left bank again, 15 ft. high, bears SE. and NW.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 23, 24, 25 and 26, with brass cap marked T 39 S R 24 E. S 23 | S 24 S 26 | S 25 1912 dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high W. of the cor.
	Land broken 13.00 chs., level 67.00 chs.
	Soil bare poor 4th rate 13.00 chs., 2nd rate if irrigated 67.00 chs.
	An occasional cottonwood tree along Montezuma wash.
	Undergrowth dense greasewood about 50.00 chs.
	Thence I run
	N. 89°54'E. on random line bet. secs. 24 and 25.
40.00	Set temp. ¼ sec. cor.
80.35	Intersect the E. bdy. of the Tp. 16 lks. N. of the cor. of secs. 19, 24, 25 and 30, heretofore described.
	Thence
	N. 89°59'W. on true line bet. secs. 24 and 25.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Over rolling bottom land.
20.00	Ascend ridge from spur, projects S.
28.00	Top of ridge bearing N. and S. 50 ft. above flat. Descend.
33.00	Base of ridge, 50 ft. below top, over level surface.
40.17½	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 24 S 25 1912 raise a mound of stone 2 ft. base 1½ ft. high N. of the cor.
46.00	Ascend ridge.
49.00	Top of ridge, 50 ft. above level surface, bears N. and S.
64.00	Base of ridge, 50 ft. below top; enter greasewood.
68.00	An Indian hut of poles bears N. of line 4.00 chs., another bears S. of line 6.00 chs.; occupiedby Navajo sheep herders.
72.00	A Navajo hut of 3 rooms, built of poles, occupied by an Indian family, bears N. 8.00 chs.
80.35	The cor. of secs. 23, 24, 25 and 26.
	Land rolling and level.
	Soil gravelly and adobe, 2nd rate.
	No timber. Scant grazing.
	Scattering short greasewood undergrowth.
	September 10, 1912, Daniel B. Miller U.S. Surveyor.

Sept. 10, 1912: At 4h 30m p.m., l.m.t., I set off 37°24' on the lat. arc and 4°49'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 23, 24, 25 and 26.

Thence

N.0°01'W. bet. secs. 23 and 24.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Over sand flat covered with scattering greasewood.
12.00	Left bank of Montezuma Creek, 15 ft. high, dry, course SW.
14.00	Right bank of Montezuma Creek, 15 ft. high, course SW. Thence over greasewood flat.
15.00	Wash, 50 lks. wide, 3 ft. deep, drains E.
33.00	Arm of aliali wash, 1.00 ch. wide, 3 ft. deep, dry, drains SW.
37.00	North arm of alkali wash, 1.00 ch. wide, 3 ft. deep, dry, drains W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked S 23 $\frac{1}{4}$ | S 24 1912 dig pits 18x18x12 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 the cor.
73.00	Wash, dry, 1.00 ch. wide, 3 ft. deep, drains E.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 13, 14, 23 and 24, with brass cap marked T 39 S R 24 E S 14 | S 13 S 23 | S 24 1912 dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high W. of the cor.
	Land level.
	Soil sandy loose loam; 1st to 3rd rate, if irrigated.
	No timber. Scattering greasewood undergrowth.
	Thence I run
	S.89°59'E. on random line bet. secs. 13 and 24.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.36	Intersect the E. bdy. of the township 20 lks. N. of the point for the cor. of secs. 13, 18, 19 and 24, hereto-

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	fore described.
	Thence
	N.89°50'W. on true line bet. secs. 13 and 24.
	Over sand flat in Montezuma Canon.
3.00	Montezuma Creek, left bank, dry, 4 ft. deep, course SW.
6.00	Top of slope above Right bank of Montezuma Creek, 4 ft. deep; thence over greasewood flat.
20.00	James Hamilton's ranch house is about 15.00 chs. north of this point.
40.18	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 13 / S 24 1912 dig pits 18x18x12 ins. E. and W. of post 3 ft. dist. and raise a mound of stone 3½ ft. base, 1½ ft. high N. of the cor.
46.36	Wagon road bet. Bluff Utah and Dolores Col. bears NE. and SW.
64.50	Same road bears SE. and NW.
77.50	Alkali Wash, dry, 3.00 chs. wide, 2 ft. deep, course SE.
80.36	The cor. of secs. 13, 14, 23 and 24.
	Land level.
	Soil loose sandy loam, 1st to 3rd rate, if irrigated.
	An occasional cottonwood tree on bank of Montezuma Creek.
	Dense to scattered greasewood undergrowth. No timber.
	September 10, 1912.
	Sept. 12: At 7h 30m a.m., l.m.t., I set off 37°25' on the lat. arc, and 4°12'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 13, 14, 23 and 24.
	Thence
	N.0°01'W. bet. secs. 13 and 14.
	Over sand flat and greasewood undergrowth.
6.00	Alkali Wash, dry, 3.00 chs. wide, 2 ft. deep, drains SE.
12.20	Wagon road between Bluff and Dolores, Col. bears NW. and SE.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
17.00	Begin ascent over barren rocky N. slope of Alkali Canon, over a series of ridges and ravines, sloping S.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone in stony surface, for the ¼ sec. cor. with brass cap marked S 14 ¼ | S 13 1912 raise a mound of stonw 2 ft. base, 1½ ft. high W. of the cor.
54.50	Ascend perpendicular sandstone rim rock, 50 ft. high, 100 ft. above Alkali Wash.
56.00	Enter scattering cedar bearing E. and W.
58.00	Top of ascent on mesa, 25 ft. above sandstone rim; scattering sagebrush and cedars bear E. and W.
71.00	Descend west slope of mesa.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 11, 12, 13 and 14, with brass cap marked T 39 S R 24 E S 11 | S 12 S 14 | S 13 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land level, 17.00 chs; broken 63.00 chs.
	Soil loose sandy loam 17.00 chs. barren and rocky 39.00 chs. Bench loam on mesa.
	Timber scattering scrub cedars 24.00 chs.
	Short greasewood and sagebrush undergrowth.
	Thence
	S.89°50'E. on random line bet. secs. 12 and 13.
40.00	Set temp. ¼ sec. cor.
80.34	Intersect the E. bdy. of the Tp. 3 lks. S. of the cor. of secs. 7, 12, 13 and 18, heretofore described.
	Thence
	N.89°51'W. on true line bet. secs. 12 and 13.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Over rolling creek flats, through sagebrush and greasewoo
16.50	Ranch road bearing N. and S.
30.34	Wash, dry, 30 lks. wide, 4 ft. deep, drains SE.
34.50	Begin ascent of W. slope of Montezuma Canon, over broken surface bearing NW. and SE.
40.17	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{1}{4}$. S 12 / S 13 1912 raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high N. of the cor.
56.90	Top of ascent on sandstone rim rock, 50 ft. high, bears N. and SW.
	Thence over mesa in scattering scrub cedar and sagebrush.
76.50	Top of mesa, bears NE. and SW. Descend.
80.34	The cor. of secs. 11, 12, 13 and 14.
	Land rolling, broken and mountainous.
	Soil bench loam on mesa, barren on slopes, gravelly on creek flats.
	Scattering scrub cedar on mesa.
	Short sagebrush on mesa, scant vegetation on slopes.
	Sept. 12: At this cor. at apparent noon I set off 4°07'N. on the decl. arc and observe the sun on the meridian; the resulting lat. is 37°26', which is correct.
	N.0°01'W. bet. secs. 11 and 12.
	Ascending S. and W. slope of mesa in scattering scrub cedar timber.
4.00	Top of ascent on mesa bearing NW. and SE.
9.00	Abrupt descent of rocky S. slope of canon, over a series of ridges and ravines.
25.50	Wash, 50 lks. wide, 2 ft. deep, dry, in canon, 170 ft. below top, drains SW.
26.00	Begin ascent of N. slope of canon over a series of ridges and ravines.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
38.00	Top of ascent over sagebrush mesa, 170 ft. above wash, bears NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked S 11 $\frac{1}{4}$ | S 12 1912 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of the cor.
54.00	Descend into canon, 190 ft. deep, course SW.
58.00	Leave canon with rocky slopes. Thence over mesa bearing NE. and SW.
72.00	Cross canon, 1.00 ch. wide, 50 ft. deep, course SW.
76.00	Descend over rim rock 30 ft. high. Continue descent over a series of ridges and ravines sloping SW.
78.00	Wash, dry, 30 lks. wide, 5 ft. deep, course SW.
79.00	Begin ascent bearing NE. and SW.
80.00	Set an iron post 3 ft. long, 2 ins. in diam.,24 ins. in the ground for the cor. of secs. 1, 2, 11 and 12, with brass cap marked T 39 S R 24 E S 2 | S 1 S 11 | S 12 1912 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of the cor.
	Land broken and rolling.
	Soil bench sandy loam on mesa, poor barren and stony on slopes.
	Timber scattering cedars and pinon.
	Undergrowth sagebrush on mesa, scant vegetation on slopes.
	September 12, 1912.

September 13: At 4h 30m p.m.,l.m.t., I set off 37°27' on the lat. arc and 3°41'N. on the decl. arc, and determine a meridian at the cor. of secs. 1, 2, 11 and 12.

Thence

S.89°51'E. on random line bet. secs. 1 and 12.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.28	Intersect the E. bdy. of the Tp. 7 lks. N. of the cor. of secs. 1, 6, 7 and 12, heretofore described.
	Thence
	N.89°48'W. on true line bet. secs. 1 and 12.
	Over broken open surface, ascending SE. slope of mesa, over ridges and ravines and huge sandstone boulders.
7.00	Top of ascent, over rolling sagebrush mesa, bears N.and S
21.25	Descend from mesa over broken surface into draw bears N. and S.
25.25	Wash or draw, 16 lks. wide, 5 ft. deep, drains SW, dry. Ascend.
28.00	Top of ascent over mesa through sagebrush bears NE. and S
40.14	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{S\ 1}{S\ 12}$ 1912 dig pits 18x18x12 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 the cor.
76.78	Descend rim rock,20 ft. high bears NE. and SW.,into canon through scattering scrub cedar timber.
78.75	Wash, dry, 30 lks. wide, 6 ft. deep, drains SE.
80.28	The cor. of secs. 1, 2, 11 and 12.
	Land broken and rolling.
	Soil bench loam and rocky canon slopes, 2nd and 4th rate.
	Timber scattering scrub cedar.
	Undergrowth sagebrush.
	September 13, 1912.

Sept. 12: At 4h p.m.,l.m.t., I set off 37°27' on the lat arc, and 4°03'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 1, 2, 11 and 12.

Thence

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	N.0°01'W.bet. secs: 1 and 2, on random line.
40.00	Set temp. ¼ sec. cor.
79.97	Intersect the N. bdy. of the Tp. 26 lks. W. of the cor. of secs. 1, 2, 35 and 36, heretofore described.
	Thence
	S.0°10'W. on true line bet. secs. 1 and 2.
	Over open rolling sagebrush mesa.
12.00	Descend from mesa over broken surface, through scattering scrub cedar bearing NE. and SW.
39.97	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 2 ¼ | S 1 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
52.00	Draw, dry, 10 lks. wide, 5 ft. deep, draining SW. Ascend.
56.00	Top of ascent on ridge, 50 ft. above draw, bears NE. and SW. Descend S. slope.
60.00	Draw, dry, 10 lks. wide, 3 ft. deep, draining SW. Ascend rocky slope.
69.00	Top of ascent, 70 ft. above draw, bears NE. and SW. Thence over rolling mesa.
78.50	Descend into canon over a series of ridges and ravines bearing E. and W.
79.97	The cor. of secs. 1, 2, 11 and 12.
	Land rolling and broken.
	Soil rocky on slopes, bench loam on mesas.
	Timber scattering cedars 12.00 chs.
	Scant vegetation on slopes. Undergrowth sagebrush.
	Setpember 12, 1912.

Sept. 11, 1912: At 10h a.m., l.m.t., I set off 37°22'30" on the lat. arc, and 4°32'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 2, 3, 34 and 35 on S. bdy. of tp. heretofore described.

Thence I run

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	N.0°01'W. bet. secs. 34 and 35.
	Ascending S. slope of ridge over volcanic or igneous bodies of rock.
25.00	Begin ascent of NW. slope of Montezuma Canon.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. firml in a mound of stone on stone surface for the ¼ sec. cor with brass cap marked S 34 ¼ | S 35 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
80.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the cor. of secs. 26, 27, 34 and 35 with brass cap marked T 39 S R 24 E S 27 | S 26 S 34 | S 35 1912 raise a mound of stone, 2 ft. base, 1½ ft. high W. of the cor.
	Land broken.
	Soil volcanic and barren, poor 4th rate.
	Timber scattering scrub cedars.
	No undergrowth.
	Sept. 11, 1912. Jos. C. Thoma U.S. Surveyor.
	September 11: At 10h 45m a.m., l.m.t., I set off 37°23' on the lat. arc and 4°31'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 26, 27, 34 and 35.
	Thence I run
	S.89°47'E. on a random line bet. secs. 26 and 35.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect N. and S. line 28 lks. S. of the cor. of secs. 25, 26, 35 and 36,

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Thence
	N.89°59'W. on true line bet. secs. 26 and 35.
	Over broken surface, sharp ridges and washes from the S.
28.00	Foot of descent, 70 ft. below sec. cor. Leave broken surface, thence over level bottom surface along Montezuma Wash bears NE. and SW.
32.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for witness cor. to the ¼ sec. cor. with brass cap marked
	WC ¼ S 26 ——— S 35 1912
	from which
	A cottonwood, 15 ins. in dia., bears S.2°E., 80 lks. dist. mkd. W C ¼ S 35 B T.
	A cottonwood, 15 ins. dia., bears N.85°E., 85 lks. dist. mkd. W C ¼ S 26 B T.
33.00	Left bank of Montezuma Wash, 10 ft. high, course S.80°W.
	Thence over bottom of wash:
40.00	In bottom of wash, impracticable to set ¼ sec. cor.
48.00	Ascend from wash over 8 ft. bank over level surface bearing NE. and SW. covered with greasewood.
52.00	Remains of an old mesa dwelling on line.
60.00	Ascend over broken canon surface, stony and barren, bears N. and S.
80.00	The cor. of secs. 26, 27, 34 and 35.
	Land broken 48.00 chs., level 32.00 chs.
	Soil 2nd to 4th rate.
	Scant grazing. No timber, except an occasional cottonwood tree near the banks of Montezuma Wash.
	September 11, 1912, Daniel B. Miller U.S.Surveyor.

Sept. 11, 1912:

At 10h 45m a.m., l.m.t., I set off 37°23'30" on the lat. arc, and 4°31'30"N. on the decl. arc, and determine a

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	meridian at the cor. of secs. 26, 27, 34 and 35.
	Thence I run
	N.0°01'W. bet. secs. 26 and 27.
	Ascending W. slope of canon, over a series of ravines and ridges through scattering sagebrush and shadscale.
23.50	Wash, dry, 50 lks. wide; 5 ft. deep, 100 ft. below sec. cor.; drains East.
24.00	Begin ascent of N. slope of canon over a series of rocky ridges and ravines bearing E. and W.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 27 ¼ | S 26 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	NOTE: There is a showing of coal croppings about 50 lks. E. of this ¼ cor.
41.50	Ascend sandstone rim rock 40 ft. high bears E. and W. 120 ft. above wash. Thence over rolling sagebrush mesa through scattering scrub cedars.
72.00	Begin descent from mesa on S. slope of canon bears E. and W.
74.00	Coal croppings, 1.00 ch. W. of the line.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 22, 23, 26 and 27, with brass cap marked T 39 S R 24 E S 22 | S 23 S 27 | S 26 1912 dig pits 18x18x12 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 rolling and broken.
	Soil barren, poor 4th rate on slopes; sandy bench loam on mesa.
	Timber scattering scrub cedars on mesa.
	Undergrowth sagebrush and greasewood.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Sept. 11:
	At this cor. at apparent noon I set off 4°30'N. on the lat. arc and observe the sun on the meridian; the resulting lat. reads 37°24' which is correct.
	Thence
	S.89°59'E. on random line bet. secs. 23 and 26.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.00	Intersect the N. and S. line 38 lks. N. of the cor. of secs. 23, 24, 25 and 26.
	Thence
	N.89°43'W. on true line bet. secs. 23 and 26.
	Over sand flats in Montezuma Canon through greasewood.
3.00	Left bank of Montezuma Creek, bank 3 ft. deep, dry, course S.
6.00	Right bank of Montezuma Creek, bank 3 ft. high; thence over greasewood flat.
8.00	Begin ascent of E. slope of ridge bearing N. and S. over broken and rolling surface.
30.00	Top of ascent on narrow mesa, 100 ft. above Montezuma Canon, bears N. and S.
34.00	Begin descent of W. slope of ridge bearing N. and S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{1}{4}$ S 23 / S 26 1912
	raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of the cor.
41.00	Foot of descent, 100 ft. below top, over sand flats, bears N. and S.
54.00	Wash, dry, 50 lks. wide, 1 ft. deep, course SE.
60.00	Begin ascent of W. slope of canon over a series of ridges and ravines draining NE.
80.00	The cor. of secs. 22, 23, 26 and 27.
	Land level and rolling sand flats and broken canon sides.
	Soil sandy loam in flats, 1st and 2nd rate if irrigated, barren and stony on slopes and scant grazing or vegetation.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	No timber.
	Some short sagebrush undergrowth.
	Sept. 11:
	At 2h 15m p.m.,l.m.t., I set off 27°24' on the lat. arc, and 4°28'N. on the decl. arc, and determine a meridian at the cor. of secs. 22, 23, 26 and 27.
	Thence I run
	N.0°01'W. bet. secs. 22 and 23.
	Ascending the SW. slope of canon over a series of ridges and ravines through scattering shadscale.
17.00	Outcroppings of coal on line.
	Enter scrub cedar timber bearing NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia.,24 ins. firmly set in a mound of stone on stone surface, with a brass cap marked S 22¼ | S 23 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	An alkali spring 20 lks. W. of cor.
56.00	Top of ascent on mesa, 50 ft. above ¼ sec. cor.,bears NW. and SE.
64.00	Leave scattering cedars bearing NE. and SW. Thence through sagebrush.
80.00	Set an iron post 3 ft. long, 2 ins. in diam.,24 ins. in the ground for the cor. of secs. 14, 15, 22 and 23 with brass cap marked T 39 S R 24 E S 15 | S 14. S 22 | S 23. 1912 dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base 2 ft. high W. of the cor.
	Land broken on slopes 56.00 chs.; level and slightly rolling on mesa 24.00 chs.
	Soil clay and loam on slopes, poor 3rd and 4th rate.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Bench loam on mesa, 1st rate if irrigated. Fair grazing on mesa, scant on slopes.
	Timber scattering scrub cedar and pinon.
	Undergrowth sagebrush and shadscale.
	Thence
	S.89°43'E. on random line bet. secs. 14 and 23.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.05	Intersect the N. and S. line 9 lks. S. of the cor. of secs. 13, 14, 23 and 24
	Thence
	N.89°47'W. on true line bet. secs. 14 and 23.
	Over sand flat of Alkali Wash, through scattering greasewood and salt sage.
2.00	Alkali Wash, dry, 50 lks. wide, 2 ft. deep, course S.
6.00	Begin ascent of steep broken ridges and ravines and barren rocky surface bearing N. and S.
26.00	Foot of perpendicular sandstone ledge, 70 ft. high, Thence ascend over mesa covered with scattering sagebrush, bears N. and S.
36.00	Top of mesa, 200 ft. above wash, bears N. and S. Descend.
39.00	Draw, 10 lks. wide, 3 ft. deep, dry, draining N. Ascend.
40.02½	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{S\ 14}{S\ 23}$ 1912 dig pits 18x18x12 ins. E. and W. of the post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
41.00	Top of gradual ascent over sagebrush mesa bearing N. and S.
80.05	The cor. of secs. 14, 15, 22 and 23.
	Land from slightly rolling to broken.
	Soil bench loam on mesa, loose sandy loam on flats and

Chains	
	barren and stony on slopes, 1st to poor 4th rate.
	No timber.
	Undergrowth sagebrush and greasewood.
	September 11, 1912.

	Sept. 13: At 7h 57m a.m., l.m.t., I set off 37°25' on the lat. arc, 3°49'N. on the decl. arc, and determine a meridian at the cor. of secs. 14, 15, 22 and 23.
	Thence
	N.0°01'W. bet. secs. 14 and 15.
	Over rolling surface covered with scattering sagebrush.
20.00	Dry draw, 10 lks. wide, 2 ft. deep, draining NE.
	Begin gradual ascent.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	S 15 ¼ | S 14
	1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
44.00	Top of gradual ascent, 50 ft. above draw, bears NE. and SW.
	Descend gradually over mesa.
57.80	Abrupt descent from mesa over rim rock 35 ft. high; thence over broken barren surface on a series of ridges and ravines bearing E. and W.
72.00	Foot of descent, 150 ft. below top, bears E. and W.
	Thence over sand flats through scattering greasewood and salt sage.
76.00	Wash, dry, 50 lks. wide, 2 ft. deep, drains E.
78.25	Wagon road bet. Bluff and Dolores & Cortez Col., bears E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 10, 11, 14 and 15, with brass cap marked
	T 39 S R 24 E
	S 10 | S 11
	S 15 | S 14
	1912

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	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 level and gently rolling to broken.
	Soil bench loam on mesa, 1st rate if irrigated; good grazing on mesa. On slopes poor stony, 4th rate.
	Scant vegetation. Loose sandy loam in flat, scant vegetation.
	No timber.
	Undergrowth greasewood and sagebrush.
	Thence I run
	S.89°47'E. on random line bet. secs. 11 and 14.
40.00	Set temp. ¼ sec. cor.
80.08	Intersect the N. and S. line 7 lks. N. of the cor. of secs. 11, 12, 13 and 14.
	Thence
	N.89°44'W. on true line bet. secs. 11 and 14.
	Over broken surface.
2.00	Descend from mesa over rocky broken slope bearing N. and S.
16.00	Wash, dry, 50 lks. wide, 10 ft. deep, 150 ft. below top of mesa, drains S. Ascend.
40.04	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 11 / ¼ / S 14 / 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
42.00	Top of ascent over mesa, 90 ft. above wash, bears N. and S.
43.00	Descend from mesa over broken barren E. slope of canon, over a series of ridges and ravines bearing N. and S.
68.00	Foot of descent, 130 ft. below top, bears NW. and SE. Descend gradually over greasewood flat.
71.00	Alkali Wash, 2 ft. deep, dry, course S. of E. Thence in wash.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
74.00	Leave Alkali Wash, 20 lks. wide, 5 ft. deep, drains SE. Thence over greasewood flat.
80.08	The cor. of secs. 10, 11, 14 and 15. Land gently rolling to broken. Soil loose sandy loam in flats and on benches, 1st rate, if irrigated, and fair grazing; on slopes stony and barren poor 4th rate. No timber. Undergrowth greasewood.
	Thence N.0°01'W. bet. secs. 10 and 11. Over sand flat in Alkali Canon through scattering greasewood and shadscale undergrowth.
12.00	Alkali Wash, dry, 20 lks. wide, 3 ft. deep, drains E.
16.00	Leave wash; ascend gravel ridge.
20.00	Top of ridge bears E. and W. 100 ft. above Alkali Wash. Enter shadscale.
28.00	Descend from ridge bearing E. and W.
32.00	Foot of descent, 70 ft. below top, bears E. and W. Thence over grassy flat.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked S 10 $\frac{1}{4}$ | S 11 1912 raise a mound of stone 2 ft. base $1\frac{1}{2}$ ft. high W. of the cor.
43.00	Begin precipitous ascent of point on N. slope of Alkali Canon, over large sandstone boulder and a series of ridges and ravines.
65.00	Top of ascent on rim rock 80 ft. high, 150 ft. above bottom of descent. Thence across point projecting W.
68.00	Descend abruptly over rim rock 35 ft. high bearing E. and W. Thence continue descent over a series of ridges and ravines.
70.00	Wash, 50 lks. wide, course W. Ascend.
77.00	Top of low ridge projects W. Descend.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in

Chains	
	the ground for the cor. of secs. 2, 3, 10 and 11, with brass cap marked T 39 S R 24 E S 3 | S 2 S 10 | S 11 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land level and rolling in canon, broken on slopes.
	Soil loose sandy loam in canon, poor stony and barren on the slopes, gravelly on ridge.
	No timber.
	Undergrowth shadscale, greasewood and sagebrush.
	Sept. 13: At apparent noon I set off 3°44'N. on the decl. arc, and observe the sun on the meridian at the cor. of secs. 2, 3, 10 and 11; the resulting lat. reading is 37°27' which is sufficiently correct.
	Thence I run
	S.89°44'E. on random line bet. secs. 2 and 11.
40.00	Set temp. ¼ sec. cor.
79.98	Intersect the N. and S. line 2 lks. N. of the cor. of secs. 1, 2, 11 and 12.
	Thence
	N.89°43'W. on true line bet. secs. 2 and 11.
	Over broken surface to mesa.
.30	Top of ascent of rim rock, 30 ft. high, on sagebrush mesa bearing NE. and SW.
12.00	Descend from mesa on E. slope of canon bearing NE. and SW.
19.00	Foot of descent, 30 ft. below top, bears NE. and SW.
20.00	Wash dry, 1.00 ch. wide, 5 ft. deep, course SW. Ascend W. slope of canon.
27.00	Top of ascent on rolling mesa 30 ft. above wash, bears N. and S.
39.99	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	$\frac{1}{4}$ S 2 / S 11 1912
	dig pits 18x18x12 ins. E. and W. of the post. 3 ft. dist. raise a mound of earth $3\frac{1}{2}$ ft. base $1\frac{1}{2}$ ft. high N. of the cor.
74.00	Descend from mesa over a series of ridges and ravines on stony broken surface, bears NE. and SW.
79.98	The cor. of secs. 2, 3, 10 and 11.
	Land broken and rolling.
	Soil sandy loam and stony, 1st to 4th rate.
	Scant vegetation; fair grazing on mesa.
	Timber scattering scrub cedar.
	Undergrowth sagebrush and shadscale.
	Thence
	N.0°01'W. on random line bet. secs. 2 and 3.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.63	Intersect the N. bdy. of the Tp. 30 lks. W. of the cor. of secs. 2, 3, 34 and 35, heretofore described.
	Thence
	S.0°14'W. on true line bet. secs. 2 and 3.
	Over rolling mesa through scattering scrub cedars.
6.00	Wash, 1 ch. wide, 1 ft. deep, dry, course SW.
9.50	Gradual ascent to mesa bearing NE. and SW.
35.50	Top of ascent on mesa. Begin descent over a series of ridge bearing NE. and SW.
39.63	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked S 3 $\frac{1}{4}$ | S 2 / 1912
	raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of cor.
63.00	Foot of descent, 50 ft. below top of mesa, bears NE. and SW.
63.50	Wash, 50 lks. wide, 1 ft. deep, drains SW.
	Ascend NW. slope of rocky ridge.

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Chains	
75.50	Leave cedars bearing NE. and SW.
79.63	The cor. of secs. 2, 3, 10 and 11.
	Land rolling and broken.
	Soil bench loam on mesas, fair grazing; stony barren clay on slopes. Scant grazing and vegetation on slopes.
	Timber some scattering scrub cedar in patches.
	Sept. 13, 1912.
	Jos. C. Thoma
	U.S. Surveyor.

Sept. 12: At 9h 12m a.m., l.m.t., I set off 37°22' on the lat. arc, and 4°10'N. on the decl. arc, and determine a meridian at the cor. of secs. 33 and 34 on S. bdy. of the Tp. set by me Sept. 9, and heretofore described.

Thence I run

N.0°02'W. bet. secs. 33 and 34.

Over broken surface, a series of sharp ridges and canon washes, ascending.

36.00 Top of ascent over a sandstone ledge 30 ft. high, 110 ft. above sec. cor., bears E. and W.

Thence gradual ascent over rolling mesa, through sage-brush undergrowth.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼ S 33 | S 34
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

68.00 Top of ascent, 30 ft. above ¼ sec. cor. Descend gradually over surface draining NE.

80.00 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the cor. of secs. 27, 28, 33 and 34, with brass cap marked

T 39 S R 24 E
S 28 | S 27
S 33 | S 34
1912

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	dig pits 18x18x12 ins. in each sec. 5½ ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of the cor.
	Land broken and rolling 36.00 chs.; rolling and level 44.00 chs.
	Soil bare stony canon washed sides, 36.00 chs., bench sandy loam 44.00 chs. 1st and 2nd rate if irrigated.
	No timber; fair grazing on the mesa, balance scant.
	Undergrowth sagebrush.
	Thence
	N.89°58'E. on random line bet. secs. 27 and 34.
40.00	Set temp. ¼ sec. cor.
79.85	Intersect the N. and S. line, 35 lks. N. of the cor. of secs. 26, 27, 34 and 35,
	Thence
	N.89°47'W. on true line bet. secs. 27 and 34.
	Over broken canon surface, ascending canon side.
33.00	Top of ascent on sandstone ledge, 60 ft. high, 150 ft. above sec. cor., bears N. and S.
	Thence over rolling mesa draining NE. Gradually ascend.
39.92½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the earth for the ¼ sec. cor. with brass cap marked
	¼ S 27 / S 34 1912
	raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
79.85	The cor. of secs. 27, 28, 33 and 34.
	Land broken 33.00 chs., rolling and level 47.00 chs.
	Soil poor bare canon washed surface, 33.00 chs; bench sandy loam 47.00 chs.
	No timber. Fair grazing on mesa, balance scant.
	Undergrowth sagebrush.
	Sept. 12:
	At apparent noon I set off 4°07'N. on the decl. arc, and observe the sun on the meridian at the cor. of secs. 27,

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	28, 33 and 34; the lat. arc. reads 37°23' which is the correct reading.
	I turn off the meridian from my other lines and run N.0°02'W. bet. secs. 27 and 28.
	Over rolling sagebrush mesa.
32.00	S. edge of rocky gulch bears E. and W. Descend.
37.00	Bottom of descent in wash, 5 lks. wide, 3 ft. deep, dry, drains N.60°E. 30 ft. below S. edge of gulch. Ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 28 | S 27 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
47.75	N. edge of gulch at S. edge of mesa, 30 ft. above bottom. Thence over rolling surface bearing NE. and SW.
72.00	Leave mesa, descend into wide canon over rocky slope bearing NW. and SE.
80.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in earth and stone mound on bed rock for the cor. of secs. 21, 22, 27 and 28 with brass cap marked T 39 S R 24 E S 21 | S 22 S 28 | S 27 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land rolling and broken.
	Soil sandy bench loam on mesa, 1st rate if irrigated; canon soil bare poor 4th rate.
	A few scattering cedars in gulch.
	Fair grazing on mesa, scant in canon and gulch.
	Undergrowth sagebrush and shadscale.
	Sept. 12: At 2h 15m p.m., l.m.t., I set off 37°24' on the lat. arc, and 4°05'N. on the decl. arc, and determine

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	a meridian at the cor. of secs. 21, 22, 27 and 28.
	Thence I run
	S.89°47'E. on random line bet. secs. 22 and 27.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.88	Intersect the N. and S. line, 19 lks. S. of the cor. of secs. 22, 23, 26 and 27.
	Thence
	N.89°55'W. on true line bet. secs. 22 and 27.
	Over broken canon side, ascending abruptly.
8.00	Top of ascent on rim rock, 30 ft. high, 50 ft. above sec. cor., bears N. and S.60°E.
	Thence across sagebrush mesa point extending S. about 50.00 chs.
32.00	Rim rock on W. side of mesa, 30 ft. high, bears N.30°W. and S.30°E. Descend abruptly on SW. slope of breaks.
39.94	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in mound of earth and stone on bed rock for the $\frac{1}{4}$ sec. cor. with brass cap marked
	$\frac{1}{4}$ S 22 / S 27 1912
	raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high N. of the cor.
45.00	Base of abrupt descent, 150 ft. below top, bears N. and S. Thence across canon bottom, over rolling surface.
52.00	Canon wash, dry, 30 lks. wide, 5 ft. deep, drains S.30°E.
73.00	Begin ascent of rocky slope from canon bears NW. and SE.
79.88	The cor. of secs. 21, 22, 27 and 28.
	Land broken and rolling.
	Soil 4th rate. Scant grazing.
	A few scattering cedars on mesa.
	Undergrowth sagebrush and shadscale.
	September 12, 1912.

Sept. 13: At 9h 55m a.m., l.m.t., I set off 37°24' on the lat. arc and 3°46'N. on the decl. arc, and determine

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	a meridian at the cor. of secs. 21, 22, 27 and 28.
	Thence I run
	N.0°02'W. bet. secs. 21 and 22.
	Over broken surface, descending abruptly.
10.00	Base of descent bears NE and SW.
	Thence over rolling and level surface.
24.00	Canon wash, 45 lks. wide, 1 ft. deep, dry. drains SE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 21 | S 22 1912 dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.
61.00	Foundation of an old mesa ruin on line.
64.00	Abrupt ascent to mesa over broken surface bears NW. and SE.
79.00	Top of ascent, on rim rock; point of mesa projects SW. 80 ft. above canon wash.
80.00	Set an iron post 3 ft. long, 2 ins. in diam. in mound of stone on exposed bed rock for the cor. of secs. 15, 16, 21 and 22, with brass cap marked T 39 S R 24 E S 16 | S 15 S 21 | S 22 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land rolling and broken.
	Soil poor 2nd to 4th rate.
	Scant grazing. No timber.
	Undergrowth greasewood and shadscale.
	Sept. 13: At last described corner I set off 3°44'N. on the decl. arc and at apparent noon observed the sun on the meridian; the observed latitude reading is 37°25' which is correct.
	I turn off a course from my line bet. secs. 21 and 22, and run

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	S.89°55'E. on random line bet. secs. 15 and 22.
40.00	Set temp. ¼ sec. cor.
79.76	Intersect the N. and S. line 17 lks. S. of the cor. of secs. 14, 15, 22 and 23.
	Thence S.89°58'E. on true line bet. secs. 15 and 22.
	Over rolling sagebrush mesa.
39.88	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 15 S 22 1912
	dig pits 18x18x12 ins. E. and W. of the post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
	No trees in limits suitable for marking.
41.00	Enter scattering scrub cedar and pinon bearing N. and S.
60.00	Surface becomes broken and exposed bed rock on canon border.
79.76	The cor. of secs. 15, 16, 21 and 22.
	Land rolling 60.00 chs., broken 79.76 chs.
	Soil sandy bench loam, 1st rate, 60.00 chs; stony and exposed bed rock about 20.00 chs.
	Scattering cedar and pinon timber of scrubby growth, about 39.00 chs.
	Sept. 13: At this cor. I set off 37°25' on the lat. arc, 3°42'N. on the decl. arc, and at 2h 05m p.m., l.m.t., determine a meridian which confirms my line just run bet. secs. 15 and 22.

September 13, 1912,

Daniel B. Miller

U.S.Surveyor.

Sept. 16: At 9h a.m., l.m.t., I set off 37°25' on the lat. arc and 2°38'N. on the decl. arc, and determine a meridian at the cor. of secs. 15, 16, 21 and 22, set by D.B.Miller, U.S.Surveyor under this assignment

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Sept. 13, 1912.
	Thence I run
	N.0°02'W. bet. secs. 15 and 16.
	Over broken and rolling surface on E. edge of canon, in scattering scrub cedars.
4.00	Descend from mesa into E. slope of canon, over broken canon surface bearing E. and W.
12.00	Leave canon draining SW. near head 5.00 chs. NE. Thence over rolling sagebrush mesa through scattering scrub cedars bearing E. and W.
34.00	Top of low rolling ridge on mesa bearing E. and W. Descend gradually.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked S 16 ¼ | S 15 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
58.00	Foot of descent, 25 ft. below ¼ sec. cor. Continue over sagebrush flat. Leave cedars bearing E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in earth and stone on stone surface, for the cor. of secs. 9, 10, 15 and 16, with brass cap marked T 39 S R 24 E S 9 | S 10 S 16 | S 15 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land broken in canon, rolling on mesa and sage flat.
	Soil sandy bench loam on mesa, fair grazing; in canon stony and barren; on flat sandy and gravelly, poor 3rd rate.
	Timber scattering scrub cedars 58.00 chs.
	Undergrowth sagebrush and shadscale.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Thence I run
	N.89°58'E. on random line bet. secs. 10 and 15.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.56	Intersect the N. and S. line, 45 lks. S. of the cor. of secs. 10, 11, 14 and 15,
	Thence
	S.89°39'W. on true line bet. secs. 10 and 15.
	Over rolling surface in greasewood and shadscale.
19.00	Wagon road bet. Bluff and Dolores and Cortez, Col., bears SE. and NW.
25.00	Same road bears NE. and SW.
30.00	Same road bears SE. and NW.
31.00	Wash, dry, 20 lks. wide, 2 ft. deep, drains SE., 20 ft. below sec. cor.
39.78	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked
	$\frac{1}{4}$ S 10 / S 15 1912
	dig pits 18x18x12 ins. E. and W. of the post, 3 ft. dist. and raise a mound of earth $2\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high N. of the cor.
48.00	Ascend SE. slope of ridge, over ravines and low ridges bearing NW. and SE.
75.00	Top of ridge, 70 ft. above wash. Then slight descent over rolling sagebrush flat bearing NW. and SE.
79.56	The cor. of secs. 9, 10, 15 and 16.
	Land gently rolling.
	Soil sandy loam and gravelly.
	Scant grazing and little vegetation.
	No timber.
	Undergrowth greasewood and shadscale.

September 16, 1912,

Jos. C. Thoma

U.S. Surveyor.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Sept. 20: At 8h 24m a.m.,l.m.t., I set off 37°26' on the lat. arc and 1°06'N. on the decl. arc, and determine a meridian at the cor. of secs. 9, 10, 15 and 16.
	Thence
	N.0°02'W. bet. secs. 9 and 10.
	Over rolling surface through scattering sagebrush.
12.00	Wash, dry, 15 lks. wide, 2 ft. deep, drains N.80°E.
12.75	Wagon road bet. Bluff and Cortez, Col, bears NW. and S.80°E.
15.00	Wash, dry, course E. 20 lks. wide, 2 ft. deep, Begin abrupt ascent.
27.00	Top of E. side of knoll, 60 ft. above wash. Descend.
31.00	Wash, 5 lks. wide, 2 ft. deep, 50 ft. below top of knoll, dry, drains W. Ascend SW. slope of mesa.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in a mound of stone in broken stone surface for the ¼ sec. cor. with brass cap marked ¼ S 9 | S 10 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor. Continue steep ascent to mesa.
43.00	Top of ascent to mesa point, projects W. 60 ft. above draw.
44.50	Descend from mesa to gulch,bears E. and W.
48.00	Bottom of gulch, 50 ft. below top of mesa, which heads about 5.00 chs. NE. Ascend.
54.00	S. edge of mesa at top of ascent. Rim rock 30 ft. high, 60 ft. above gulch.
	Thence over rolling mesa through scattering scrub cedar and pinon bearing E. and W.
70.00	N. edge of mesa. Descend over rim rock 30 ft. high. Continue steep descent over broken surface leaving timber, bears E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam.,24 ins. in a mound of earth and stone on stony surface, for the cor. of secs. 3, 4, 9 and 10, with brass cap marked

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	T 39 S R 24 E S 4 | S 3 S 9 | S 10 1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land broken and rolling.
	Soil thin, poor 2nd. to 4th rate.
	Scant grazing.
	Timber scattering growth of scrub cedar and pinon about 16.00 chs.
	Thence
	N.89°39'E. on random line bet. secs. 3 and 10.
40.00	Set temp. ¼ sec. cor.
79.63	Intersect the N. and S. line, 18 lks. N. of the cor. of secs. 2, 3, 10 and 11,
	Thence
	S.89°47'W. on true line bet. secs. 3 and 10.
	Over broken canon surface, abruptly descending.
8.60	Canon wash from NE, drains SW. dry, 30 lks. wide, 4 ft. deep. Ascend abruptly over broken surface.
17.00	Top of spur, 50 ft. above wash, projects S. Descend abruptly among large conglomerate boulders.
33.60	Base of descent, 130 ft. below top, bears NW. and SE. Thence across rolling canon bottom land.
39.81½	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the earth for the ¼ sec. cor. with brass cap marked ¼ S 3 S 10 1912 dig pits 18x18x12 ins. E. and W. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
49.00	Left bank of Alkali Wash, 5 ft. high, course SE. dry.
51.50	Right bank of Alkali Wash, 4 ft. high, course SE. Ascend over broien surface.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
79.63	The cor. of secs. 3, 4, 9 and 10.
	Land broken and rolling.
	Soil poor thin 2nd to 4th rate.
	Scant grazing. No timber.
	The sun obscured by clouds at noon, no observation for latitude taken.
	Thence
	N.0°04'W. bet. secs. 3 and 4.
	Over broken surface.
14.50	Right bank of Alkali Canon Wash, 5.00 ft. high, dry, drains SE.
17.50	Left bank of Alkali Canon Wash, drains SE. Thence over greasewood flat.
21.00	Begin ascent of rocky ridge.
33.00	Top of spur, 70 ft. above Alkali Wash, projects W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone and earth on stone base, for the ¼ sec. cor. with brass cap marked ¼ S 4 | S 3 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
79.53	Intersect the cor. of secs. 3, 4, 33 and 34 on N. Bdy. of Tp. set by Jos. C. Thoms, U.S.Surveyor, Sept. 9, 1912 under this assignment, and heretofore described.
	Land broken.
	Soil 2nd to 4th rate. Scant grazing.
	No timber.
	At this cor. at 2h 10m p.m., l.m.t., I set off 37°28' on the lat. arc and 1°00'30"N. on the decl. arc, and determine a meridian, which confirms the course of the line bet. secs. 3 and 4, just run.
	September 20, 1912.

Chains	
	September 14: At 9h 12m a.m., l.m.t., I set off 37°22'30" on the lat. arc and 3°24'N. on the decl. arc, and determine a meridian at the cor. of secs. 32 and 33 on S. bdy. of the Tp. set my me Sept. 9, 1912; heretofore described. Thence
	N.0°03'W. bet. secs. 32 and 33.
	Over rolling land, descending gradually over open surface.
40.00	Set an iron post 3 ft. long and 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with a brass cap marked ¼ S 32 | S 33 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
45.00	Draw, dry, 30 lks. wide, 3 ft. deep, drains E.
48.00	Begin ascent over broken ridges, deep washes and among huge boulders bearing E. and W.
78.00	Beginning of ascent of S. slope of mesa bearing E. and W.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 28, 29, 32 and 33, with brass cap marked T 39 S R 24 E S 29 | S 28 S 32 | S 33 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land broken and rolling.
	Soil poor, stony and 4th rate.
	Scant grazing. No timber.
	Thence
	N.89°50'E. on random line bet. secs. 28 and 33.
40.00	Set temp. ¼ sec. cor.
79.82	Intersect the N. and S. line 12 lks. S. of the cor. of secs. 27, 28, 33 and 34.
	Thence
	S 89°45'W. on true line bet. secs. 28 and 33.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Over rolling mesa through open sagebrush surface.
37.00	W. edge of mesa, over sandstone ledge 50 ft. perpendicular, bears NW. and SE.
	Thence over broken canon side on steep descent.
39.96	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in earth in stone base for the ¼ sec. cor. with brass cap marked ¼ S 28 S 33 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
57.00	Gulch, dry, 30 ft. deep, bears S. heads 15.00 chs. NE. Ascend.
79.82	The cor. of secs. 28, 29, 32 and 33.
	Land rolling and broken 43.00 chs., balance rolling mesa.
	Soil in canon poor 4th rate; on mesa sandy bench 1st rate.
	Fair grazing on mesa; scant grazing in canon.
	No timber.
	Undergrowth sagebrush and shadscale.
	Sept. 14: At this cor. at apparent noon I set off 3°21'N. on the decl. arc, and observe the sun on the meridian; the reading of the lat. arc is 37°23' which is correct.
	Thence
	N.0°03'W. bet. secs. 28 and 29.
	Ascending steep rocky slope.
2.50	Top of ascent on rim rock, 20 ft. high, bears NE. and SW. Thence over rolling sagebrush mesa, gradually ascending.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 29 | S 28 1912 dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist. and raise a mound of earth 4 ft. base, 2½ ft. high W.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	of the cor. Continue gradual ascent.
75.00	Enter rocky surface bearing NE. and SW.
79.00	Head of small gulch, drains N.35°E.
80.00	Set an iron post 3 ft. long, 2 ins. in diam.,24 ins. in mound of stone on bed rock for the cor. of secs. 20, 21, 28 and 29 with brass cap marked T 39 S R 24 E S 20 | S 21 S 29 | S 28 1912 raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land rolling mesa.
	Soil 1st rate if irrigated. Fair grazing.
	No timber. Undergrowth sagebrush.
	Sept. 14: At 2h 7m p.m.,l.m.t., I set off 37°24' on the lat. arc, 3°19'N. on the decl. arc, and determine a meridian at the cor. of secs. 20, 21, 28 and 29.
	Thence I run
	N.89°45'E. on random line bet. secs. 21 and 28.
40.00	Set temp. ¼ sec. cor.
79.79	Intersect the N. and S. line at the cor. of secs. 21, 22, 27 and 28.
	Thence
	S.89°45'W. on true line bet. secs. 21 and 28.
	Over broken surface, abruptly ascending to mesa.
6.00	E. edge of sagebrush mesa, on rim rock 20 ft. high, bears N.30°W. and SE.
39.89½	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 21 S 28 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor. Continue descent.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
49.00	Head of gulch, course N.35°E. Ascend.
60.00	Top of raise bears NE. and SW. Descend gradually.
79.50	Small gulch drains N.35°E.
79.79	The cor. of secs. 20, 21, 28 and 29.
	Land broken and rolling.
	Soil on mesa bench sand and loam 1st rate if irrigated; in canon poor 4th rate.
	No timber. Undergrowth short sagebrush.
	Sept. 14: At 3h 12m a.m., l.m.t., I set off 37°24' on the lat. arc and 3°18'N. on the decl. arc, and determine a meridian at the cor. of secs. 20, 21, 28 and 29.
	Thence
	N.0°03'W. bet. secs. 20 and 21.
	Over rolling open mesa surface through short sagebrush.
17.00	Head of canon, 60 ft. deep, course NE.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in mound of stone on solid bed rock for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{1}{4}$ S 20 | S 21 1912 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high W. of the cor.
40.80	Descend NE. slope of spur into valley bears E. and W.
64.00	Foot of descent across valley bears NW. and SE.
	Thence cross dry draw draining E.
74.00	Ascend steep slope over rim rock bearing E. and W.
80.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the cor. of secs. 16, 17, 20 and 21.
	Land rolling.
	Soil sandy bench loam, 1st rate if irrigated.
	An occasional scrub cedar or pinon.
	Fair grazing. Short sagebrush undergrowth.
	September 14, 1912.

SUBDIVISION OF T. 37 S. R. 24 E.

Chains	
	September 17: At 7h 55m a.m., l.m.t., I set off 37°25' on the lat. arc and 2°16'N. on the decl. arc, and determine a meridian at the cor. of secs. 16, 17, 20 and 21.
	Thence I run
	N.89°45'E. on random line bet. secs. 16 and 21.
40.00	Set temp. ¼ sec. cor.
79.82	Intersect the N. and S. line 10 lks. N. of the cor. of secs. 15, 16, 21 and 22.
	Thence
	S.89°49'W. on true line bet. secs. 16 and 21.
	Over broken stony surface draining S.
.40	Descend over rim rock 40 ft. high bearing N. and S. Thence over broken steep slope into canon.
6.75	Bottom of descent in dry gulch, heads 8.00 chs. N. Ascend.
10.00	Rocky spur from mesa to the NW., 50 ft. above bottom of gulch, projects S. 8.00 chs. Descend.
17.50	Canon wash, dry, 40 lks. wide, 3 ft. deep, course S.30°E. Ascend.
32.00	Top of ascent, 60 ft. above wash, on rolling mesa through sagebrush undergrowth.
39.91	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked $\frac{\frac{1}{4}\ S\ 16}{S\ 21}$ 1912 dig pits 18x18x12 ins. E. and W. of the post, 3 ft. dist and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
79.00	W. edge of mesa point, bears N.5.00 chs. and SE. Descend abruptly.
79.82	The cor. of secs. 16, 17, 20 and 21.
	Land broken, about 33.00 chs., rolling about 47.00 chs.
	Soil good bench sandy loam on mesa, 1st rate if irrigated; canon soil poor 4th rate, bare and stony.
	Fair grazing on mesa, scant in canon.
	No timber, except an occasional very scrubby cedar

Chains

or pinon.

Undergrowth sagebrush and shadscale.

September 17, 1912.

Sept. 19: At 9h 24m a.m., l.m.t., I set off 37°25' on the lat. arc and 1°28'N. on the decl. arc, and determine a meridian at the cor. of secs. 16, 17, 20 and 21.

Thence I run

N.0°03'W. bet. secs. 16 and 17.

Ascending through scattering scrub cedar and pinon over broken SW. slope of canon.

5.00 Head of gulch, 30 ft. below sec. cor. drains SW.

14.00 Swale, 1.00 ch. wide, drains SW. Thence over rolling surface of sagebrush and greasewood.

40.00 Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the earth for the ¼ sec. cor. with brass cap marked

¼ S 17 | S 16

1912

dig pits 18x18x12 ins. N. and S. of the post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 2 ft. high W. of the cor.

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

T 39 S R 24 E

S 8 | S 9

S 17 | S 16

1912

dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high W. of the cor.

Land generally rolling and level.

Soil sandy bench loam, 1st rate if irrigated.

Good grazing. No timber. Undergrowth sagebrush and greasewood.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Sept. 19: At apparent noon I set off 1°25'N. on the decl. arc and observe the sun on the meridian; the resulting lat. is 37°26'.
	Thence
	N.89°49'E. on random line bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
79.75	Intersect the N. and S. line 2 lks. N. of the cor. of secs. 9, 10, 15 and 16.
	Thence
	S.89°50'W. on true line bet. secs. 9 and 16.
	Gradually descending over rolling open surface through sagebrush undergrowth.
38.00	Ascend to mesa bearing NW. and SE.
39.87½	Top of ascent on bare bed rock.
	Set an iron post, 3 ft. long, 1 in. in diam., in mound of stone for the ¼ sec. cor. with brass cap marked ¼ S 9 / S 16 1912 raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
	Thence over rolling mesa.
79.75	The cor. of secs. 8, 9, 16 and 17.
	Land rolling.
	Soil sandy bench loam and bare gravelly surface, 1st to 4th rate. Grazing fair to scant.
	No timber. Undergrowth sagebrush and greasewood.
	N.0°03'W. bet. secs. 8 and 9.
	Over rolling surface, through short sagebrush.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 8 | S 9 1912 dig pits 18x18x12 ins. N. and S. of the post, 3 ft. dist. and raise

SUBDIVISION OF T. 39 S. R. 24 E.

Chains

a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.

54.15 Wagon road bet. Bluff and Cortez, Col. bears N.70°W. and S.70°E.

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

T 39 S R 24 E
S 45 | S 34
S 8 | S 9
1912

raise a mound of stone 2 ft. base 1½ ft. high W. of the cor.

Land rolling.

Soil sandy bench loam, 1st rate if irrigated.

Undergrowth short sagebrush. No timber.

Good grazing.

September 19, 1912.

Sept. 21: At 8h 53m a.m., l.m.t., I set off 37°26' on the lat. arc and 0°42'N. on the decl. arc, and determine a meridian at the cor. of secs. 4, 5, 8 and 9.

Thence I run

N.89°50'E. on random line bet. secs. 4 and 9.

79.68 Intersect the N. and S. line 10 lks. N. of the cor. of secs. 3, 4, 9 and 10.

Thence

S.89°54'W. on true line bet. secs. 4 and 9.

Ascending broken canon side, slope from mesa.

28.00 Top of ascent on rim rock at E. edge of mesa, 60 ft. above sec. cor.

A gulch from the SW. enters the canon about 2.00 chs. S. of the line. Surface partly exposed bed rock.

39.84 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone set on bed rock for the ¼ sec. cor. with brass cap marked

¼
S 4
S 9
1912

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor. Thence over rolling sagebrush land.
79.68	The cor. of secs. 4, 5, 8 and 9.
	Land broken and rolling.
	Soil sandy bench loam about 35.00 chs., balance poor 4th rate.
	Good grazing on mesa, balance poor and scant.
	No timber. Undergrowth sagebrush.
	September 22, 1912.
	Sept. 19: At 2h 24m p.m., l.m.t., I set off 37°27'N. on the lat. arc and 1°22'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 4, 5, 8 and 9.
	Thence
	N.0°03'W. on random line bet. secs. 4 and 5.
40.00	Set temp. ¼ sec. cor.
79.98	Intersect the N. bdy. of the Tp. 8 lks. E. of the cor. of secs. 4, 5, 32 and 33 set by Jos. C. Thoma, U.S. Surveyor Sept. 9, 1912 and heretofore described.
	Thence
	S.0°06'E. on true line bet. secs. 4 and 5.
	Over broken surface in an arm of Alkali Canon. General ascent.
20.00	Top of ascent on mesa point projecting E. 80 ft. above sec. cor. This point is a solid sandstone rock. Begin precipitous descent.
21.50	Foot of descent, 100 ft. below last point. Thence over broken canon surface bearing E. and W.
37.00	Wash, dry, 3 lks. wide, 2 ft. deep, drains E. Ascend.
39.98	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in earth and stone on stone bed rock for the ¼ sec. cor. with brass cap marked

¼ S 5 | S 4

1912

Chains	
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
63.00	S. edge of mesa bears E. and W; over rolling sagebrush surface.
79.98	The cor. of secs. 4, 5, 8 and 9.
	Land broken.
	Soil poor 4th rate.
	Scant grazing. An occasional scrub cedar or pinon.
	Undergrowth sagebrush.
	September 19, 1912.

Sept. 16, 1912: At 9h 24m a.m., l.m.t., I set off 37°22' on the lat. arc and 2°37'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 31 and 32, set by me Sept. 9, 1912, on the S. bdy. of the Tp. heretofore described.

Thence N.0°03'W. bet. secs. 31 and 32.

Descending over rolling land, through scattering sagebrush.

17.00	Foot of descent in bottom of canon. Draw drains NE.
	Ascend steep rocky N. slope of canon.
34.00	Top of low short ridge bearing E. and W. 40 ft. above foot.
36.00	Descend over rolling land bearing E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone on stone surface, for the ¼ sec. cor. with brass cap marked

¼ S 31 | S 32
1912

raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.

48.00	Dry draw, 20 lks. wide, 3 ft. deep, drains E.
80.00	Set an iron post, 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 29, 30, 31 and 32, with brass cap marked

T 39 S R 24 E
S 30 | S 29
S 31 | S 32
1912

Chains	
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
	Land broken and rolling.
	Soil stony, bare and bad land, poor 4th rate.
	Scant grazing. No timber.
	Undergrowth sagebrush and shadscale.
	Thence
	N.89°52'E. on random line bet. secs. 29 and 32.
40.00	Set temp. ¼ sec. cor.
79.88	Intersect the N. and S. line 5 lks. S. of the cor. of secs. 28, 29, 32 and 33.
	Thence I run
	S.89°50'W. on true line bet. secs. 29 and 32.
	Over broken canon surface through scattering sagebrush and an occasional scrub cedar and pinon.
	Steep ascent.
7.00	Top of ascent on rim rock, 30 ft. high, bears NE. and SW.
	Thence on open rolling mesa.
18.00	Edge of mesa point, projects 17.00 chs. S.
32.00	Descend from mesa over ledges bearing NW. and SE.
	Thence across low unimportant spurs projecting S.
39.94	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in a mound of stone on bed rock for the ¼ sec. cor. with brass cap marked
	¼ S 29 / S 32 1912
	raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
68.50	Wash, dry, 20 lks. wide, 3 ft. deep, drains SE.
79.88	The cor. of secs. 29, 30, 31 and 32.
	Land rolling and broken.
	Soil stony and sandy bench, 1st to 4th rate.
	An occasional scrub cedar or pinon. Scant grazing.
	Undergrowth short sagebrush.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Thence I run
	N.89°52'W. on random line bet. secs. 30 and 31.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
78.18	Intersect the W. bdy. of the Tp. at the cor. of secs. 25, 30, 31 and 36, heretofore described.
	Thence
	S.89°52'E. on true line bet. secs. 30 and 31.
	Over broken mesa surface, through scattering short sagebrush with an occasional scrub cedar or pinon.
38.18	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{S\ 30}{S\ 31}$ 1912
	dig pits 18x18x12 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 the corner.
43.00	Wash, dry, 10 lks. wide, 2 ft. deep, course S. Ascend.
50.00	Mesa point, 40 ft. above wash, projects S.5.00 chs. Descend.
59.00	Small draw, 40 ft. below point, dry, course S. Ascend.
64.50	A sandstone boulder 30x20x15 ft. on line. Spur projects S. about 5.00 chs. Descend.
66.00	Base of descent; thence across rolling valley grass land.
75.00	Wash, dry, 30 lks. wide, 3 ft. deep, drains N.80°E.
78.18	The cor. of secs. 29, 30, 31 and 32.
	Land broken and rolling.
	Soil loose sandy loam and stony, 1st to 4th rate.
	Undergrowth scattering sagebrush.
	An occasional scrub cedar or pinon.
	Sept. 16:
	At apparent noon, I set off 2°34'30"N. on the decl. arc, and observe the sun on the meridian; the resulting

Chains	
	latitude is 37°23', which is the correct reading.
	Thence
	N.0°03'W. bet. secs. 29 and 30.
	Over gently rolling mesa, through short sagebrush and bunch grass.
5.00	Wash, 30 lks. wide, 3 ft. deep, 20 ft. below sec. cor. drains NE.
	Ascend gradually over rolling land.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 30 | S 29 1912 dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.
40.50	Wash, 40 lks. wide, 3 ft. deep, drains SE. dry.
60.00	Wash, 5 lks. wide, 1 ft. deep, dry, drains S.70°E.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the earth for the cor. of secs. 19, 20, 29 and 30, with brass cap marked T 39 S R 24 E S 19 | S 20 S 30 | S 29 1912 dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base, 2½ ft. high W. of the cor.
	Land gently rolling.
	Soil good sandy bench loam, 1st rate if under irrigation.
	No timber. Good grazing.
	Undergrowth sagebrush.
	Sept. 16: At 2h 05m p.m., l.m.t., I set off 37°24' on the lat. arc, and 2°33'N. on the decl. arc, and determine a meridian at the cor. of secs. 19, 20, 29 and 30.
	Thence
	N.89°50'E. on random line bet. secs. 20 and 29.
40.00	Set temp. ¼ sec. cor.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
79.83	Intersect the N. and S. line 6 lks. S. of the cor. of secs. 20, 21, 28 and 29.
	Thence I run
	S.89°47'W. on true line bet. secs. 20 and 29.
	Over open rolling sagebrush mesa, draining SE.
39.91½	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 20 S 29 1912 dig pits 18x18x12 ins. E. and W. of post 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
40.00	Top of ascent over rolling mesa, bears NW. and SE. Descend gradually.
79.83	The corner of secs. 19, 20, 29 and 30.
	Land rolling and broken.
	Soil sandy bench loam, 1st rate if irrigated; poor 4th rate. Good grazing.
	No timber. Short sagebrush undergrowth.
	N.89°52'W. on random line bet. secs. 19 and 30.
40.00	Set temp. ¼ sec. cor.
78.10	Intersect the W. bdy. of the Tp. 9 lks. N. of the cor. of secs. 19, 24, 25 and 30, heretofore described.
	Thence
	S.89°56'E. on true line bet. secs. 19 and 30.
	Over rolling open sagebrush mesa.
38.10	Set an iron post 3 ft. long, 1 in. in diam.,24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 19 S 30 1912 dig pits 18x18x12 ins. E. and W. of post 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
78.10	The cor. of secs. 19, 20, 29 and 30. Land rolling and level. Soil sandy bench loam, 1st rate if irrigated. No timber. Good grazing. Short sagebrush undergrowth.
	N.0°03'W. bet. secs. 19 and 20. Over open rolling sagebrush mesa.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 19 | S 20 1912 dig pits 18x18x12 ins. N. and S. of post 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 17, 18, 19 and 20, with brass cap marked T 39 S R 24 E S 18 | S 17 S 19 | S 20 1912 dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high W. of the cor. Land rolling and level. Soil sandy bench loam, 1st rate if irrigated. Good grazing. No timber. Undergrowth sagebrush. September 16, 1912.
	Sept. 17, 1912: At the cor. of secs. 17, 18, 19 and 20, I set off 37°25' on the lat arc, and 2°14'N. on the decl. arc, and at 9h 25m a.m., l.m.t., determine a meridian with the solar. Thence I run

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	N.89°47'E. on random line bet. secs. 17 and 20.
40.00	Set temp. ¼ sec. cor.
79.88	Intersect the N. and S. line 2 lks. N. of the cor. of secs. 16, 17, 20 and 21.
	Thence
	S.89°48'W. on true line bet. secs. 17 and 20.
	Over broken canon surface, through scattering cedar and pinon.
	Descend abruptly rocky SW. slope.
4.00	Base of descent, 20 ft. below sec. cor., bears NW. and SE.
	Thence across open canon bottom.
14.00	Canon wash, 20 lks. wide, 7 ft. deep, course SE.
	Ascend gradually.
30.00	Begin ascent of canon side over broken surface on NE. slope of mesa bearing NW. and SE.
39.94	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the earth and stone on stone bottom for the ¼ sec. cor. with brass cap marked
	¼ S 17 / S 20 1912
	raise a mound of stone 2 ft. base, 1½ ft. high N. of the cor.
40.50	Top of ascent bearing NW. and SE.
	Thence gradual ascent on rolling mesa through sagebrush.
79.88	The cor. of secs. 17, 18, 19 and 20.
	Land broken and rolling.
	Soil 1st rate on mesa, poor 4th rate in canon. Scant grazing in canon, good on mesa.
	No timber.
	Undergrowth sagebrush and greasewood.

	N.89°56'W. on random line bet. secs. 18 and 19.
40.00	Set temp. ¼ sec. cor.
79.87	Intersect the W. bdy. of the Tp. 21 lks. S. of the cor.

Chains	
	of secs. 13, 18, 19 and 24 heretofore described.
	Thence
	S.89°47'E. on true line bet. secs. 18 and 19.
	Over rolling surface, in scattering sagebrush and greasewood.
30.50	Top of gentle raise bears S.20°E. and N.20°W.
	Descend gradually.
37.87	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 18 / S 19 / 1912
	dig pits 18x18x12 ins. E. and W. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
77.87	The cor. of secs. 17, 18, 19 and 20.
	Land rolling and level.
	Soil sandy bench loam, 1st rate if irrigated.
	No timber. Good grazing.
	Undergrowth sagebrush.
	N.0°03'W. bet. secs. 17 and 18.
	Over open rolling sagebrush surface, gradually ascending.
12.00	Enter scattering scrub cedar and pinon, among stony breaks, bearing E.
34.00	Edge of deep canon course W. and SE.
	Descend over broken surface.
40.00	Set an iron post 3 ft. long, 1 in. in diam, 24 ins. in a mound of stone on bed rock for the ¼ sec. cor. with brass cap marked
	¼ S 18 | S 17 / 1912
	raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
40.20	Wash in bottom of canon, dry, 10 ft. deep, 15 lks. wide, course S.60°E. 30 ft. below top of mesa.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Ascend abruptly.
49.30	N. edge of canon at top of ascent; rim rock 30 ft. above wash bears E. and W. Gradually ascend.
80.00	Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. of secs. 7, 8, 17 and 18, with brass cap marked T 39 S R 24 E S 7 | S 8 S 18 | S 17 1912 dig pits 18x18x12 ins. in each sec. 5½ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high N. of the cor.
	Sept. 17:
	At this cor. at apparent noon, I set off 2°12'N. on the decl. arc and observe the sun on the meridian; the reading of the lat. arc is observed to be 37°26', which is sufficiently correct.
	Land rolling and broken. Soil stony poor 4th rate in canon, balance on mesa sandy bench loam, 1st rate if irrigated. Good grazing about 31.00 chs., balance scant. Timber scattering scrub cedar and pinon. Undergrowth sagebrush.
	Thence
	N.89°48'E. on random line bet. secs. 8 and 17.
40.00	Set temp. ¼ sec. cor.
79.94	Intersect the N. and S. line 9 lks. N. of the cor. of secs. 8, 9, 16 and 17. Thence I run
	S.89°52'W. on true line bet. secs. 8 and 17.
	Over rolling mesa through sagebrush and an occasional scrub cedar or pinon.
39.97	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the earth for the ¼ sec. cor. with brass cap marked ¼ S 8 S 17 1912 dig pits 18x18x12 ins. E. and W. of post 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	of the cor.
55.00	Gradual descent bearing N. and S.
79.94	The cor. of secs. 7, 8, 17 and 18.
	Land rolling. Soil sandy bench loam, 1st rate if irrigated. Undergrowth short scattering sagebrush with an occasional scrub cedar or pinon. Grazing good.
	Thence
	N.89°47'W. on random line bet. secs. 7 and 18.
40.00	Set temp. ¼ sec. cor.
77.86	Intersect the W. bdy. of the Tp. 11 lks. N. of the cor. of secs. 7, 12, 13 and 18, heretofore described.
	Thence I run
	S.89°52'E. on true line bet. secs. 7 and 18.
	Over rolling sagebrush land.
5.00	Gradually descend bearing NW. and SE.
30.50	Wash, dry, 10 lks. wide, 5 ft. deep, course SE. Ascend.
37.86	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 7 / S 18 1912 dig pits 18x18x12 ins. E. and W. of post 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
77.86	The cor. of secs. 7, 8, 17 and 18.
	Land rolling and level.
	Soil sandy bench loam, 1st rate if irrigated.
	No timber. Short scattering sagebrush.
	Good grazing.
	Sept. 17: At 2h 25m p.m., l.m.t., I set off 37°26' on the lat. arc, and 2°10'N. on the decl. arc, and determine a meridian at the cor. of secs. 7, 8, 17 and 18.
	Thence
	N.0°03'W. bet. secs. 7 and 8.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	Over slightly rolling sagebrush mesa, gradually ascending.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{1}{4}$ S 7 | S 8 1912 dig pits 18x18x12 ins. N. and S. of the post 3 ft. dist. and raise a mound of earth $3\frac{1}{2}$ ft. base, $1\frac{1}{2}$ ft. high W. of cor.
80.00	Set an iron post 3 ft. long, 2 ins. in diam.,24 ins. in the ground for the cor. of secs. 5, 6, 7 and 8, with brass cap marked T 39 S R 24 E S 6 | S 5 S 7 | S 8 1912 dig pits 18x18x12 ins. in each sec. $5\frac{1}{2}$ ft. dist. and raise a mound of earth 4 ft. base, 2 ft. high W. of the cor.
	Land rolling and level.
	Soil sandy bench loam, 1st rate if irrigated.
	Good grazing. No timber.
	Undergrowth sagebrush.

	Thence
	N.89°52'E. on random line bet. secs. 5 and 8.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
79.84	Intersect the N. and S. line 4 lks. S. of the cor. of secs. 4, 5, 8 and 9.
	Thence
	S.89°50'W. on true line bet. secs. 5 and 8.
	Over rolling sagebrush and grazing land.
40.00	Set an iron post, 3 ft. long, 1 in. in diam.,24 ins. in the ground for the $\frac{1}{4}$ sec. cor. with brass cap marked $\frac{1}{4}$ S 5 S 8 1912 dig pits 18x18x12 ins. E. and W. of post, 3 ft. dist.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the cor.
60.00	Bottom of swale, 20 ft. deep, drains NE. Gradually ascend
64.25	Wagon road bet. Bluff and Cortez, Col., bears N.70°W. and S.70°E.
79.84	The cor. of secs. 5, 6, 7 and 8.
	Land rolling and level.
	Soil sandy bench loam, 1st rate if irrigated.
	No timber. Undergrowth short scattering sagebrush.
	Good grazing.
	September 17, 1912.
	Sept. 22: At 8h 55m a.m., l.m.t., I set off 37°27' on the lat. arc and 0°18'30"N. on the decl. arc, and determine a meridian at the cor. of secs. 5, 6, 7 and 8.
	Thence I run
	N.89°52'W. on random line bet. secs. 6 and 7.
40.00	Set temp. ¼ sec. cor.
77.60	Intersect the W. bdy. of the Tp. 11 lks. S. of the cor. of secs. 5, 6, 7 and 8, heretofore described.
	Thence
	S.89°47'E. on true line bet. secs. 6 and 7.
	Over rolling sagebrush mesa.
37.60	Set an iron post 3 ft. long, 1 in. in dia., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	S ¼ 6 / S 7 1912
	dig pits 18x18x12 ins. E. and W. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high N. of the corner.
77.60	The corner of secs. 5, 6, 7 and 8.
	Land rolling and level.
	Soil sandy bench loam, 1st rate if irrigated.
	No timber. Good grazing.
	Undergrowth sagebrush.

SUBDIVISION OF T. 39 S. R. 24 E.

Chains	
	N.0°03'W. on random line bet. secs. 5 and 6.
40.00	Set temp. ¼ sec. cor.
80.33	Intersect the N. bdy. of the Tp. 55 lks. W. of the witness cor. for secs. 5, 6, 31 and 32 heretofore described, which is 50 lks. S.89°53'E. of true cor. point.
	Thence
	S.0°01'E. from the point for cor. on true line bet. secs. 5 and 6.
	Over broken canon surface, ascending.
7.50	Top of ascent on rim rock, 30 ft. above sec. cor., bears E. and W. Thence gradual ascent on rolling mesa surface.
40.33	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked
	¼ S 6 | S 5
	1912
	dig pits 18x18x12 ins. N. and S. of post, 3 ft. dist. and raise a mound of earth 3½ ft. base, 1½ ft. high W. of the cor.
75.75	Wagon road bet. Bluff and Cortez, Col., bears E. and W.
80.33	The cor. of secs. 5, 6, 7 and 8.
	Land rolling about 73.00 chs., broken about 7.00 chs.
	Soil sandy bench loam on mesa, 1st rate if irrigated.
	No timber. Good grazing.
	At this cor. at apparent noon I set off 0°15'30"N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 37°28', which is the correct lat. approximately.

September 22, 1912,

Daniel B. Miller

U.S. Surveyor.

GENERAL DESCRIPTION

This township is about two thirds canon surface, little part of which is agricultural land, even under drainage. Nearly all of the canon sides and bottom surface is of washed loose texture; and the soil has all washed off

leaving exposed bare surface on which little vegetation grows. There are, however, several places along Montezuma Canon Wash that, if irrigated, would produce crops. This canon, which is several hundred feet lower than the upland mesas adjoining and 5 or 6 miles wide, had very little grazing the season the surveys were made, scarecely any rain having fallen, and the sheep and goats which the Indians were grazing in Montezuma Canon suffered on account of the short grazing. This canon drains a large area and in the spring season when the snow is melting on the high areas to the north, becomes swollen and forms a stream in this township 150 to 200 ft. wide and 2 to 4 ft. deep, with a rapid current. During the fall or dry season it is entirely dry; good water can usually be found, through, by digging a few feet in the channel. At the canon edges of the main canon, as well as the branches leading into it, where the mesas break off into them, there is usually a precipitous sandstone wall or ledge from a few feet to 50 ft. in height.

The upland or mesas in this township are all on the west side, and these are generally open sagebrush benches with a few scattered scrub cedar and pinon.

The soil on these mesas appears to be very rich and produces fair to good grazing in favorable seasons.

There is one settler, James Hamilton, living in sec. 13, who has a two room one stony house built partly of adobe and partly of logs; several small outbuildings, a good well and a tract of about 3 acres under fence and cultivation. Improvements worth about $300.00. He has made no filing. This ranch is situated at the crossing of the Bluff-Cortez wagon road with the Montezuma Wash.

On the face of the sandstone walls at the canon edges, particularly to the east of the wash, there appears considerable solidified petroleum residue. In this vicinity and in the extreme south part of the township is considerable stone of an igneous formation.

SUBDIVISION OF T. 39 S. R. 24 E.

GENERAL DESCRIPTION

Coal outcroppings appear in the SE. quarter of the Tp., but not in sufficient quantities to return any sections as coal lands. Several coal croppings were noticed in the canon breaks. No other indications of mineral were found in the township.

Daniel B. Miller.

Jos. C. Thoma

U.S. Surveyors.

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BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificates of assistants see book "V" T.39 S., R.36 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

6—261

.....
U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuan
of special instructions received from the U. S. Surveyor General for .....
bearing date of the ..... day of ....., 191 , I have well, faithfully, and trul
in my own proper person, and in strict conformity with said instructions, the Manual of Surveyin
Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

..... of the .....
..... Meridian, in the State of ....., which are represented
the foregoing field notes as having been executed by me, and under my direction; and I do furth
solemnly swear that all the corners of said survey have been established and perpetuated in strict accor
ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Survey
General for ..... and in the specific manner described in the field notes, and th
the foregoing are the original field notes of such survey.

.....
U. S. Surveyor.

Subscribed by said ....., and sworn to before me
this ..... day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
Salt Lake City, Utah , March 8 , 1916

The foregoing field notes of the survey of the Subdivisional lines of Township No.39 South, Range No.24 East, of the Salt Lake Base and Meridian, Utah,

executed by Daniel R.Miller and Joseph C.Thoma
under ~~his~~ their special instructions dated March 26, 1912, having bee
critically examined, and the necessary corrections and explanations made, ~~the~~ said field notes, and th
surveys they describe, are hereby approved.

.....
U. S. 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.

.....
U. S. Surveyor General.

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Filed Jan. 18, 1916.

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BOOK A-413
P

FIELD NOTES

OF THE SURVEY OF THE

West Boundary

of

T. 36 S.R. 22 E.

Of the Salt Lake Base and *Meridian,*

In the State of Utah

EXECUTED BY

Daniel B. Miller and Jos. C. Thoma

In the capacity of U. S. Surveyor, *under instructions dated* March 26, *191* 2, and Supplemental Special Instructions dated July 24, 1912 *issued by the United States Surveyor General to govern surveys included in Group No.* 16, *which were approved by the Commissioner of the General Land Office,* April 2 and Aug. 3, *1912* respectively

Survey commenced August 29, *1912*

Survey completed September 2, *1912*

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BOOK A-413

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Township 36 South, *Range* 22 East

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1	31	32	33	34	35	36

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WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
	Survey commenced August 29, 1912, and executed with a Kueffel & Esser Solar Transit No. 20037, for description of which and certificate of official test for instrumental errors preliminary to the commencement of this survey on the meridian at Salt Lake City, see book "A" of this group.
	For examination of transit and adjustment of instrumental errors and test of the solar attachments with a meridian established by Polaris observations August 19, 1912, see page 1 of book "N".
	August 29: At 10h a.m., l.m.t., I set off 37°38' on the lat. arc, and 9°20'N. on the decl. arc, and determine a meridian with the solar at the cor. of townships 36 and 37 S. Rs. 21 and 22 E, which is a granite stone 8x8x12 ins. above surface, firmly set and marked and witnessed as described by the Surveyor General.
	Thence I run
	North bet. ranges 21 and 22, over broken canon sides. Gradually ascend through scattering cedar and pinon timber.
32.00	Top of ridge sloping E. from mesa.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in mound of stone and earth for the ¼ sec. cor. with brass cap marked ¼ S 36 | S 31 1912 from which A pinon 8 ins. in diam., bears S.8°E., 20 lks. dist. mkd. ¼ S 31 B T. A pinon, 12 ins. in diam., bears N.3°W., 25 lks. dist. mkd. ¼ S 36 B T.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in a mound of earth and stone on bed rock for the cor. of secs. 25, 30, 31 and 36, with brass cap marked

WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
	T 36 S R 21 E | R 22 E S 25 | S 30 S 36 | S 31 1912
	from which
	A sandstone ledge cut X and B O bears N.80°E., 4 lks. dist.
	A sandstone boulder 4x5x6 ft. cut X and B O on face bears S.40°E., 15 lks. dist.
	A sandstone wall with an X and B O cut on face bears S.38°W., 22 lks. dist.
	A sandstone wall with an X and B O cut on face bears N.54°W., 2 lks. dist.
	Land broken canon sides.
	Soil poor 4th rate.
	Timber scattering cedar and pinon.
	Scant grazing.
	Aug. 29:
	At this corner at apparent noon I set off 9°18'N. on the decl. arc, and observe the sun on the meridian; the resulting lat. is 9°18'N., which is correct for practical purposes.
	Thence
	North bet. secs. 25 and 30.
	Over broken W. canon side, ascending steep slope through cedar and pinon timber, scattered.
17.30	Top of ascent to edge of mesa bears N.35°E. and S.35°W. Gradual ascent over mesa, 200 ft. above sec. cor.
40.00	Set a sandstone 12x12x18 ins. 12 ins. in the ground for the ¼ sec. cor. marked ¼ on W. face in mound of stone on solid bed rock. Impracticable to set an iron post No trees in distance fit for marking, raise a mound of stone 2 ft. base, 1½ ft. high W. of the cor.
40.50	Descend from cor. over ledge and broken surface into canon bearing E. and W.

WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
45.00	Bottom of canon, in wash. Small stream from a spring of clear water 50 lks. W. of line flows E.
	Steep ascent from canon.
49.00	Top of ascent, 100 ft. above wash. Gradually ascend over stony surface bearing NE. and SW.
80.00	Set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in the ground for the cor. of secs. 19, 24, 25 and 30, with brass cap marked

T 36 S
R 21 E | R 22 E
S 24 | S 19
S 25 | S 30
1912

from which

A pinon, 6 ins. in diam., bears N.79°E., 31 lks. dist. marked T 36 S R 22 E S 19 B T.

A pinon, 4 ins. diam., bears S.82°E., 34 lks. dist. marked T 36 S R 22 E S 30 B T.

A pinon, 8 ins. diam., bears S.36°30'W., 33 lks. dist. marked T 36 S R 21 E S 25 B T.

A pinon, 6 ins. in diam., bears N.69°W., 73 lks. dist. marked T 36 S R 21 E S 24 B T.

Land rolling and broken.

Soil stony, poor 4th rate.

Timber, cedar and pinon.

Scant grazing.

Aug. 29:

At 2h 30m p.m., l.m.t., I set off 37°30' on the lat. arc, and 9°16'N. on the decl. arc, and determine a meridian at the cor. of secs. 19, 24, 25 and 30.

Thence

North bet. secs. 19 and 24.

Over broken mesa surface, through dense cedar and pinon.

19.00	Begin steep descent from mesa into canon bears E. and W.
25.00	The bottom of the canon in wash, dry, 16 lks. wide, course SE. 150 ft. below mesa.
	Ascend steep broken N. slope.

WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
35.00	Top of ascent to S. edge of mesa, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked ¼ S 24 | S 19 1912 from which A pinon, 10 ins. in diam., bears S.89°E., 41 lks. dist. marked ¼ S 19 B T. A pinon, 10 ins. in diam., bears S.30°W., 10 lks. dist. marked ¼ S 24 B T. Gradual ascent over rolling sandy bench surface.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground for the cor. of secs. 13, 18, 19 and 24, with brass cap marked T 36 S R 21 E | R 22 E S 13 | S 18 S 24 | S 19 1912 from which A pinon, 12 ins. in diam., bears N.28°E., 77 lks. dist. marked T 36 S R 22 E S 18 B T. A pinon, 7 ins. in diam., bears S.71°E., 27 lks. dist. marked T 36 S R 22 E S 19 B T. A cedar, 7 ins. diam., bears S.65°W., 37 lks. dist. marked T 36 S R 21 E S 24 B T. A pinon, 8 ins. diam., bears N.66°W., 92 lks. dist. marked T 36 S R 21 E S 13 B T. Land rolling, 45.00 chs., broken 35.00 chs. Soil sandy bench loam, 45.00 chs., 1st rate if irrigated; broken canon sides 35.00 chs., poor 4th rate. Timber cedar and pinon. Scant grazing. August 29, 1912.

Sept. 2, 1912: At 9h a.m., l;m.t., I set off 37°40'30" on the lat. arc and 7°55'N. on the decl. arc, and deter-

WEST BOUNDARY T. 36 S. R. 22 E.

Chains

mine a meridian at the cor. of secs. 13, 18, 19 and 24.

Thence I run

North bet. secs. 13 and 18.

Over rolling mesa surface, through very dense cedar and pinon. Gradually ascend.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground for the ¼ sec. cor. with brass cap marked

¼ S 13 | S 18
1912

from which

A pinon, 6 ins. in diam., bears N.79°E., 70 lks. dist. marked ¼ S 18 B T.

A pinon, 6 ins. in diam., bears S.50°30'W., 8 lks. dist. mkd. ¼ S 13 B T.

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

T 36 S
R 21 E | R 22 E
S 12 | S 7
S 13 | S 18
1912

from which

A pinon 8 ins. in diam., bears N.41°E., 8 lks. dist. marked T 36 S R 22 E S 7 B T.

A pinon, 4 ins. in diam., bears S.79°45'E., 50 lks. dist. marked T 36 S R 22 E S 18 B T.

A pinon, 6 ins. in diam., bears S.38°30'W., 68 lks. dist. marked T 36 S R 21 E S 13 B T.

A pinon, 8 ins. in diam., bears N.48°15'W., 50 lks. dist. marked T 36 S R 21 E S 12 B T.

Land rolling bench,

Soil sandy loam, 1st rate if irrigated.

Timber cedar and pinon, dense growth.

Grazing fair to scant.

Thence

North bet. secs. 7 and 12.

WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
	Descend into wash over broken surface draining E.
6.00	Wash, dry, 30 lks. wide, 3 ft. deep, drains E.
12.00	Wash, dry, 20 lks. wide, 3 ft. deep, drains E.
	Ascend gradually.
26.00	Begin steep descent over broken side of canon bearing E.
40.00	Set an iron post 3 ft. long, 1 in. in diam., 24 ins. in stone and earth mound, on bed rock, for the ¼ sec. cor with brass cap marked

¼ S 12 | S 7
1912

from which

A cedar, 12 ins. in diam., bears S.5°E., 22 lks. dist. marked ¼ S 7 B T.

A cedar, 12 ins. in diam., bears S.51°W., 48 lks. dist. marked ¼ S 12 B T.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in earth and stone on bed rock for the cor. of secs. 1, 6, 7 and 12, with brass cap marked

T 36 S
R 21 E | R 22 E
S 1 | S 6
S 12 | S 7
1912

from which

A cedar, 18 ins. in diam., bears N.30°E., 111 lks. diat., marked T 36 S R 22 E S 6 B T.

A pinon, 10 ins. in diam., bears S.23°15'E., 174 lks. dist. marked T 36 S R 22 E S 7 B T.

A cedar, 10 ins. in diam., bears S.65°W., 152 lks. dist. marked T 36 S R 21 E S 12 B T.

A cedar, 12 ins. in diam., bears N.70°30'W., 94 lks. dist. marked T 36 S R 21 E S 1 B T.

Land broken 54.00 chs, rolling 26.00 chs.

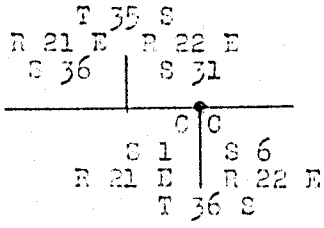
Soil poor 4th rate on rolling and broken land; sandy bench loam 2nd to 4th rate.

Timber: cedar and pinon. Scant grazing.

The sun was obscured at noon, therefore no latitude observation possible.

WEST BOUNDARY T. 36 S. R. 22 E.

Chains	
	Sept. 2:
	At 2h 30m p.m., app. time, I set off 37°42'30" on the lat. arc and 7°50'N. on the decl. arc, and determine a meridian at the cor. of secs. 1, 6, 7 and 12.
	Thence I run
	North bet. secs. 1 and 6.
	Descending into a broad canon extending several miles to the west with general course S. to Butler Wash.
28.00	Descend steep slope into deep wash from the NE. to west.
31.60	Intersect the 7th Standard Parallel S. 33.40 chs. E. of the cor. of Tps. 35 S. Rs. 21 and 22 E., set by Jos. C. Thoma, U.S.Surveyor, August 26, under this assignment, heretofore described.
	At the point of intersection I set an iron post 3 ft. long, 3 ins. in diam., 24 ins. in a mound of earth and stone on bed rock for the closing corner of Tp. 36 S. Rs. 21 and 22 E., with a brass cap marked



1912

from which

A pinon, 14 ins. in diam., bears S.31°30'E., 41 lks. dist. marked T 36 S R 22 E S 6 B T.

A pinon, 12 ins. in diam., bears S.45°W., 42 lks. dist. marked T 36 S R 21 E S 1 B T.

Land broken.

Soil poor 4th rate.

Timber scattering cedar and pinon.

Scant grazing.

September 2, 1912,

Daniel B. Miller,

U.S.Surveyor.

DEYS BOUNDARY T. 36 S. R. 22 E.

Latitudes, departures and closing errors.

Line designated	True Bearing	Distance chs	Latitudes N chs	Latitudes S chs	Departures E chs	Departures W chs
West Bdy.	North	431.60	431.60			
North Bdy.	East	235.72			235.72	
Secs.3-4;9-10	S.0°02'E.	111.36		111.36	.06	
Secs.15-16	South	40.04		40.04		
Secs.15-16	S.0°47'E.	40.51		40.51	.55	
Secs.21-22; 27-28;33-34	S.0°02'E.	240.00		240.00	.14	
South Bdy.	N.89°55'W.	237.30	.14			237.3
Contingency					.06	
			431.74	431.91	236.73	237.3
				431.74		236.7
Error in lat. and dep.				.17		.5

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BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S., R.26 E.

of the .....Meridian, in the State of ..... which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

6—2763 *U. S. Surveyor.*

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursuanc of special instructions received from the U. S. Surveyor General for ..... bearing date of the ..... day of ....., 191 , I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveyin Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

..... of the .....

..... Meridian, in the State of ....., which are represented i the foregoing field notes as having been executed by me, and under my direction; and I do furthe solemnly swear that all the corners of said survey have been established and perpetuated in strict accord ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surveyo General for ..... and in the specific manner described in the field notes, and tha the foregoing are the original field notes of such survey.

.....

U. S. Surveyor.

Subscribed by said ....., and sworn to before me this .....day of ....., 191

SEAL

.....

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, 191

The foregoing field notes of the survey of the West Boundary of Township No. 36 South, Range No.22 East, of the Salt Lake Base and Meridian, Utah

executed by Daniel B.Miller and Joseph C.Thoma under their special instructions dated July 24, special instructions dated March 26,1912,and supplemental, 191 2 , having bee critically examined, and the necessary corrections and explanations made, the said field notes, and th surveys they describe, are hereby approved.

N. C. Thorsen

U. S. 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.

.....

U. S. Surveyor General.

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Filed July 1, 1913.

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BOOK A-413

Q

FIELD NOTES

OF THE SURVEY OF THE

EAST AND NORTH BOUNDARIES AND

RETRACEMENT AND RESURVEY

ON THE SOUTH BOUNDARY

TOGETHER WITH

LATITUDES DEPARTURES AND CLOSING ERRORS

IN THE BOUNDARIES OF

T. 39 S., R. 24 E.

Of the Salt Lake Base and *Meridian,*

In the State of Utah

EXECUTED BY

Daniel E. Miller and Jos. C. Thome

In the capacity of U. S. Surveyor, *under instructions dated* March 26, *191* 2,

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

Group No. 16, *which were approved by the Commissioner of the General Land*

Office, April 2, *191* 2

Survey commenced September 7, *1912*

Survey completed September 9, *1912*

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BOOK A-413

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Township 39 South, *Range* 24 East

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Filed July 1, 1913.

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BOOK A-413

FIELD NOTES

OF THE SURVEY OF THE

EAST AND NORTH BOUNDARIES AND

RETRACEMENT AND RESURVEY

OF THE SOUTH BOUNDARY

TOGETHER WITH

LATITUDES DEPARTURES AND CLOSING ERRORS

IN THE BOUNDARIES OF

T. 39 S. R. 24 E.

Of the Salt Lake Base and *Meridian,*

In the State of Utah

EXECUTED BY

Daniel B. Miller and Jos. C. Thoma

In the capacity of U. S. Surveyor, under instructions dated March 26, 1912, *issued by the United States Surveyor General to govern surveys included in Group No.* 16, *which were approved by the Commissioner of the General Land Office,* April 2, 1912

Survey commenced September 7, 1912

Survey completed September 9, 1912

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BOOK A-413

INDEX DIAGRAM.

Township 39 South, *Range* 24 East

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BOOK A-413
U

U. S. Surveyor General's Office
JUL 1 1913
SALT LAKE CITY, UTAH

FIELD NOTES

OF THE ~~SURVEY OF THE~~

RETRACEMENT OF THE SOUTH BOUNDARY,

RETRACEMENT OF THE UTAH-COLORADO BOUNDARY LINE,

AND

SURVEY OF THE NORTH BOUNDARY

OF

TOWNSHIP 39 SOUTH, RANGE 26 EAST

Of the SALT LAKE BASE AND *Meridian,*

In the State of U T A H

EXECUTED BY

DANIEL B. MILLER AND JOS. C. THOMA

*In the capacity of U. S. Surveyor*s, *under instructions dated* March 26, *1912*, and supplemental special instructions dated July 24, 1912 *issued by the United States Surveyor General to govern surveys included in Group No.* 16, *which were approved by the Commissioner of the General Land Office,* April 2 and August 3, respectively, *1912.*

Survey commenced October 7, *1912*

Survey completed October 14, *1912*

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BOOK A-413

INDEX DIAGRAM.

Township 39 South, *Range* 26 East

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30	29	28	27 4	26	25
31 2	32 2	33 2	34 3 3	35	36

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BOOK A-413

Survey commenced October 7, 1912, and executed with a Young & Sons light mountain transit, No. 8477, 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 cloudy weather at the beginning of the survey making it impracticable to observe Polaris, and knowing the solar apparatus to be in adjustment from recent test, I do not test the solar until the completion of the work, October 16, 1912.

October 16, 1912: At my camp, in approximate latitude 37°26'N., longitude 109°07'W., I set off 37°26'N. on the lat. arc; 8°59'S. on the decl. arc; and at 3h 46m p.m., l.m.t., determine with the solar a meridian and mark a point thereof, by a tack in a wooden peg set in the ground, about 10 chs. N. of my station.

October 16, 1912, I observe Polaris as follows:

Tel. D.	Hor. Angle	Watch Time
Star	1° 29' 00"	6h 09m 55s
Flag	0 00 00	
Star	1 29 00	6 10 10
Flag	0 00 00	
Tel. R.		
Star	1 26 00	6 11 20
Flag	0 00 00	
Star	1 26 00	6 12 45
Mean	1° 27' 30"	6h 11m 02s
Watch fast, l.m.t.		33 23
L. M. T. of observation		5h 37m 39s p.m.

U. C. Pol. Oct. 16, 1912. . . 11h 48.3m p.m.
Red. for long. 1.2
U. C. Polaris at Sta. . . . . 11h 47.1m p.m.

Hour Angle of Polaris = 6h 09m
E. Azimuth of Polaris . . . . 87.5° 1° 27' 30"
Angle E. flag to star . . . . . 1° 27' 30"

October 17, 1912: At 8h 15m a.m., l.m.t., I set off 37°26'N. on the lat. arc; 9°15'S. on the decl. arc;

RETRACEMENT OF PART OF THE S. BDY. OF T. 39 S., R. 26 E.

Chains	
	and determine a meridian with the solar; this meridian coincides with the meridian obtained by observation on Polaris.
	October 7: At 8h 30m a.m., l.m.t., I set off 37°22'30" on the lat. arc; 5°30'S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 39 and 40 S., Rs. 25 and 26 E., heretofore described.
	Thence I retrace
	East on the S. bdy. of sec. 31.
40.10	The old ¼ sec. cor., 28 lks. N. of my line, which is a sandstone 3 x 8 x 12 ins. above ground, marked and witnessed as described by the surveyor general.
	The true course of this line is therefore N.89°36'E. and the distance 40.10 chs.
80.08	The old cor. of secs. 5, 6, 31 and 32, 7 lks. S. of my line, which is a porphyry 6 x 6 x 12 ins. above ground, firmly set, marked and witnessed as described by the surveyor general.
30	The course of this line is therefore S.89°30'E. and the distance 39.98 chs.
	Offset over the cor. Thence
	East on a retracement line along the S. bdy. of sec. 32.
39.90	The old ¼ sec. cor., 18 lks. S. of my line, which is a sandstone 3 x 7 x 12 ins., loosely set. I reset the same firmly in the ground, ¼ on N. face, and rebuild mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	The course of this line is therefore S.89°45'E. and the distance 39.90 chs.
79.88	The old cor. of secs. 4, 5, 32 and 33, 13 lks. S. of my line, which is a sandstone 2 x 12 x 8 ins. above ground, loosely set, properly marked, mound scattered.

RETRACEMENT OF PART OF THE S. BDY. OF T. 39 S., R. 26 E.

Chains	
	I reset the corner stone firmly in the ground, with 2 grooves on the W. and 4 grooves on the E., and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. The course of this line is therefore N.89°56'E. and the distance 39.98 chs.
	October 7: Sky overcast at noon; observation for lat. impossible.
	I offset over the corner. Thence
	East on a retracement line along the S. bdy. of sec. 33.
40.06	The old ¼ sec. cor., 10 lks. S. of my line, which is a sandstone 3 x 8 x 18 ins. above ground, loosely set, marked ¼ on N. face.
	I reset the stone firmly in the ground, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. The course of this line is therefore S.89°51'E. and the distance 40.06 chs.
80.11	The old W.C. to the cor. of secs. 3, 4, 33 and 34, 29 lks. S. of my line, which is a malpai stone 4 x 12 x 12 ins. above ground, firmly set, properly marked; mound of stone scattered. I rebuild the mound of stone, 2 ft. base, 1½ ft. high, N. of cor. The course of this line is therefore S.89°43'E. and the distance 40.05 chs.
	I offset over the cor. point, 15 lks. N. of the W.C. Thence
	East on a retracement line along the S. bdy. of sec. 34.
40.00	The old ¼ sec. cor., 5 lks. N. of my line, which is a porphyry stone 4 x 10 x 10 ins. above ground, firmly set, marked and witnessed as described by the surveyor general.

RETRACEMENT OF PART OF THE S. BDY. OF T. 39 S., R. 26 E.

Chains	
	The course of this line is therefore N.89°56'E. and the distance 40.00 chs.
59.76	A mound of stone without any marked stone, apparently the point for the old closing cor., 5 lks. N. of my line. No other appearances of a corner in the vicinity.
	The course of this line is therefore east and the distance 19.76 chs.
	I restore this cor. as follows:
	Set a sandstone 18 x 7 x 10 ins. firmly in a mound of stone, on stony surface, marked C on E. face, CCU26 and 6 grooves on W. face, 40S with 6 grooves on S. face, and 39S with 6 grooves on N. face; and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

RETRACEMENT OF THE UTAH-COLORADO BOUNDARY LINE

	October 7: At 2h 15m p.m., l.m.t., I set off 37°22'30" on the lat. arc; 5°36'S. on the decl. arc; and determine a meridian with the solar at the closing cor. of secs. 3 and 34, Tps. 39 and 40 S., R. 26 E., on the Utah-Colorado boundary line just restored by me.
	Thence
	North on a retracement line along the Utah-Colorado boundary.
	Over stony ridges, through scattering cedar and pinon.
2.00	Cross break of canon rim, 3.00 chs. wide, course W.
5.60	I find no evidence of the 24th mile cor.
18.50	Descend over 40 ft. sandstone ledge in crossing arm of Ruin Canon. Coal outcroppings at base of ledges.
64.00	Ascend 35 ft. ledge to sagebrush mesa, bearing E. and W.
67.35	A closing cor. of the Colorado surveys is 62 lks. E. of my line, and is a sandstone 4 x 10 x 12 ins. above ground, marked 25 X on E. face and U on W. face.
80.00	Set temp. post for closing cor. bet. secs. 27 and 34.

RETRACEMENT OF THE UTAH-COLORADO BOUNDARY LINE

Chains	
82.92	The 25th mile cor. on the Utah-Colorado boundary is 74 lks. E. of my line, and is a sandstone 2 x 18 x 8 ins. above ground, firmly set, marked U 88 M 25 on W. face and C on E. face. The course of this line is therefore N.0°32'E. and the distance 82.92 chs. Land, broken, rolling and stony, 64.00 chs.; sagebrush mesa, 19.00 chs. Soil, volcanic and stony, 64.00 chs. Timber, scattering cedar and pinon.
	From the 25th mile cor., I run North on a retracement line along the Utah-Colorado boundary. Over sagebrush mesa, through scattering cedars.
14.00	Cross head of canon, 6.00 chs. wide, draining SW.
40.00	I find no evidence of the ½ mile cor. on the boundary; leave scattering cedars bearing E. and W.
80.16	The 26th mile cor. on the Utah-Colorado boundary is 54 lks. E. of my line, and is a sandstone 3 x 10 x 14 ins. above ground, firmly set, and marked 26 M U 85 on W. face and C on E. face. The course of this line is therefore N.0°23'E. and the distance 80.16 chs. Land, gently rolling and level. Soil, sandy bench loam; 1st rate if irrigated. Timber, scattering cedar. Undergrowth, sagebrush.
	From the 26th mile cor., I run North on a retracement line along the Utah-Colorado boundary. Over sagebrush mesa, gently rolling and level.

RETRACEMENT OF THE UTAH-COLORADO BOUNDARY LINE

Chains	
4.00	Enter basin 14.00 chs. wide, draining SW.
40.00	No evidence of the ½ mile cor. on the boundary.
55.00	Descend into canon having SW. course.
60.00	Over canon, on rolling mesa.
79.95	The 27th mile cor. on the Utah-Colorado boundary is 65 lks. E. of my line. At this point, I find traces of old pits and mound of earth, and, the stone being gone, I re-establish the cor. as follows:
	Set a sandstone 15 x 12 x 3 ins., 10 ins. in the ground, marked U 27 M on W. face and C on E. face.
	Dig pits 36x36x12 ins. N. and S. of stone 4 ft. dist.; and raise a mound of earth 5 ft. base, 2½ ft. high W. of cor.
	The course of this line is therefore N.0°28'E. and the distance 79.95 chs.
	Land, level and rolling on mesas; broken in canons.
	Soil, sandy bench loam on mesas; stony and poor in canons.
	No timber.
	Undergrowth, sagebrush.
	October 7, 1912.

	October 11: At 9h 50m a.m., l.m.t., I set off 37°25' on the lat. arc; 7°03'S. on the decl. arc; and determine a meridian with the solar at the 27th mile cor. on the Utah-Colorado boundary.
	Thence
	North on a retracement line along the Utah-Colorado boundary.
	Over rolling mesa, through sagebrush and bunch grass.
12.00	Descend from mesa into canon, over sharp ridges, through scattering scrub cedar and pinon pine.
31.00	Ruin Creek, dry; ascend over rocky slope to N. edge of Ruin Canon; course SW.
40.00	Moki Ruins and spring about 20.00 chs. E. of line.
50.00	Sagebrush mesa. Scattering cedar and pinon.

RETRACEMENT OF THE UTAH-COLORADO BOUNDARY LINE

Chains	
63.80	A sandstone 2 x 8 x 7 ins., firmly set, marked C on E. face and 28 M U on W. face, 63 lks. E. of line.
80.00	The 28th mile cor., 67 lks. E. of my line, is a sandstone 3 x 12 x 12 ins. above ground, firmly set, marked C on E. face and 28 M U 1885 on W. face.
	The course of this line is therefore N.0°29'E. and the distance 80.00 chs.
	Land, rolling mesa.
	Soil, sandy bench loam.
	Timber, scattering cedar and pinon pine.
	Undergrowth, sagebrush and bunch grass.

North on a retracement line along the Utah-Colorado boundary.

Over rolling mesa, through sagebrush and scattering scrub cedar and pinon pine.

64.00	No trace of Col. closing cor.
66.00	Draw, 5 lks. wide, 3 ft. deep, dry, drains SW.
	Ascend.
80.00	The 29th mile cor., 69 lks. E. of my line, is a sandstone 5 x 15 x 24 ins., firmly set, marked 29 M U on W. face and C 1885 on E. face.
	The course of this line is therefore N.0°30'E. and the distance 80.00 chs.
	Land, rolling and level; general slope to the west.
	Soil, sandy bench loam.
	Timber, scattering scrub cedar and pinon pine.
	Undergrowth, short sagebrush.
	October 11: Walking on line at noon; unable to observe for lat.

October 11: At 2h 15m p.m., l.m.t., I set off 37°27' on the lat. arc; 7°08'S. on the decl. arc; and determine a meridian with the solar at the 29th mile cor.

Chains	
	on the Utah-Colorado boundary.
	Thence
	North on a retracement line along the Utah-Colorado boundary.
	Over rolling mesa, through scattering cedar and pinon pine and undergrowth of sagebrush.
16.70	County road, between Bluff, Utah, and Dolores, Colo., bears E. and W.
38.29	Descend from mesa into canon 150 ft. deep, draining W.
61.00	Ridge, bears E. and W.
79.70	A mound of scattered stone on bedrock, 71 lks. E. of my line; no marked stone. I take this to be the witness cor. to the 30th mile cor.
	I restore the cor. at this point, by setting a sandstone 10 x 15 x 24 ins., marked U on W. face, C on E. face, and 30 M P W C on S. face, firmly in a mound of stone.
	Note: Before determining this to be the old cor., I make diligent search but fail to find any other traces.
	The course of this line is therefore N.0°30°E. and the distance 79.70 chs.
	Land, gently rolling on mesa; broken in canon.
	Soil, sandy bench loam on mesa; poor and stony on slope and in canon.
	Timber, scattering scrub cedar and pinon, 80.00 chs.
	Undergrowth, sagebrush and greasewood.
	October 11, 1912.

SURVEY OF THE NORTH BDY. OF T. 39 S., R. 26 E.

October 14: At 9h a.m., l.m.t., I set off 37°28' on the lat. arc; 8°09'S. on the decl. arc; and determine a meridian with the solar at the cor. of Tps. 38 and 39 S., Rs. 25 and 26 E., set by me and heretofore described.

Thence

SURVEY OF THE NORTH BDY. OF T. 39 S., R. 26 E.

Chains	
	East, bet. secs. 6 and 31.
	Over abrupt ascent of rocky SE. slope, through scrub cedar and pinon pine.
17.50	Top of ascent bears N. and S. across N. end of mesa, through dense cedars.
39.50	Draw, dry, 50 lks. wide, course N. into SE. arm of Cross Canon.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S ¼ 31 S 6 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
40.08	Descend gradually through dense cedars bearing N. and S.
70.00	Descend abruptly over sandstone ledges bearing N. and S.
76.00	Bottom of ascent, 40 ft. below top of sandstone ledges, bears N. and S.
	Ascend.
78.00	Top of knoll, 40 ft. above bottom of ascent.
	Descend.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 5, 6, 31 and 32, with brass cap marked T 38 S | R 26 E S 31 | S 32 S 6 | S 5 T 39 S | R 26 E 1912 and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	No suitable bearing trees in limits.
	Soil, stony and volcanic in composition.
	Timber, dense to scattering cedar and pinon, 80.00 chs.
	Undergrowth, shadscale and greasewood.
	October 14: Cloudy at noon; observation for latitude impossible.

SURVEY OF THE NORTH BDY. OF T. 39 S., R. 26 E.

Chains	
	East, bet. secs. 5 and 32.
	Descending over broken canon surface.
4.00	Draw, dry, 10 lks. wide, 3 ft. deep, 50 ft. below sec. cor., drains N.
24.00	Draw, dry, 50 lks. wide, 1 ft. deep, drains N.
	Ascend over rocky ridges, through greasewood.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked.
	S ¼ 32 / S 5 / 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Continue over a series of unimportant ridges and draws draining N. in Cross Canon.
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 4, 5, 32 and 33, with brass cap marked
	T 38 S | R 26 E S 32 | S 33 S 5 | S 4 T 39 S | R 26 E 1912
	and raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, broken.
	Soil, poor, stony, barren and volcanic.
	No timber.
	Undergrowth, shadscale and greasewood.
	East, bet. secs. 4 and 33.
	Over broken surface of stony ridges sloping N.
16.00	Draw, dry, 30 lks. wide, 2 ft. deep, drains NW.
	Ascend over rocky ridges bearing NW. and SE.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

SURVEY OF THE NORTH BDY. OF T. 39 S., R. 26 E.

Chains

$$\frac{S\ \frac{1}{4}\ 33}{S\ 4}$$
1912

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

40.05 Draw, dry, 50 lks. wide, 3 ft. deep, drains N.

80.00 Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for cor. of secs. 3, 4, 33 and 34, with brass cap marked

T 38 S S 33	R 26 E S 34
S 4 T 39 S	S 3 R 26 E

1912

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

Land, broken canon surface.

Soil, poor washed surface, stony and volcanic.

No timber.

Undergrowth, shadscale and short sage.

October 14: At 2h 15m p.m., l.m.t., I set off 37°28' on the lat. arc; 8°14'30"S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34.

Thence

East, bet. secs. 3 and 34.

Descending over a series of unimportant rocky ridges.

10.00 Leave ridges, bearing NW. and SE.; enter gently rolling flat.

28.00 Draw, dry, 50 lks. wide, 3 ft. deep, drains NW.

30.50 Draw, 50 lks. wide, 3 ft. deep, drains NW.

40.00 Set an iron post, 3 ft. long, 1 in. in diam., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked

$$\frac{S\ \frac{1}{4}\ 34}{S\ 3}$$
1912

Chains

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

40.05 Draw, dry, 40 lks. wide, 2 ft. deep, drains NW.

50.00 Ascend ridge over a series of small ridges, bearing NW. and SE.

63.85 Intersect the Utah-Colorado boundary, 87 lks. S.0°30'W. of what I take to be the W.C. to the 30th mile cor. heretofore described. At point of intersection, I

Set an iron post, 3 ft. long, 3 ins. in diam., 24 ins. in the ground, for closing cor. of secs. 3 and 34, Tps. 38 and 39 S., R. 26 E., with brass cap marked

T 38 S R 26 E
S 34 C
Utah | Colo.
S 3 C
T 39 S R 26 E
1912

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

Land, broken.

Soil, rocky, barren slopes, poor, 4th rate.

No timber.

Undergrowth, short sagebrush and greasewood.

October 14, 1912.

Jos. C. Thoma

U. S. Surveyor.

BOUNDARIES OF T. 39 S., R. 26 E.

Latitudes, Departures, and Closing Errors.

Lines Designated	True Bearing	Dist.	Latitudes.		Departures.	
			N.	S.	E.	W.
		Chs.	Chs.	Chs.	Chs.	Chs.
S.Bdy.Sec.31	N.89°36'E.	40.10	.28	.....	40.10	.....
S.Bdy.Sec.31	S.89°30'E.	39.98	.....	.35	39.98	.....
S.Bdy.Sec.32	S.89°45'E.	39.90	.....	.18	39.90	.....
S.Bdy.Sec.32	N.89°56'E.	39.98	.05	.....	39.98	.....
S.Bdy.Sec.33	S.89°51'E.	40.06	.....	.10	40.06	.....
S.Bdy.Sec.33	S.89°43'E.	40.05	.....	.20	40.05	.....
S.Bdy.Sec.34	N.89°56'E.	40.00	.....	.05	40.00	.....
S.Bdy.Sec.34	East	19.76	.....	.....	19.76	.....
E.Bdy.Sec.34 25th mile	N.0°32'E.	82.92	82.92	.....	.74	.....
26th mile	N.0°23'E.	80.16	80.16	.....	.54	.....
27th mile	N.0°28'E.	79.95	79.95	.....	.65	.....
28th mile	N.0°29'E.	80.00	80.00	.....	.67	.....
29th mile	N.0°30'E.	80.00	80.00	.....	.69	.....
E.Bdy.Sec.3	N.0°30'E.	78.83	78.83	.....	.67	.....
N.Bdy.of Tp.	West	303.85	.....	.....	.....	303.85
W.Bdy.of Tp.	South	480.00	.....	480.00	.....	.....
Convergency						.37
	Totals		482.19 480.88	480.88	303.79	304.22 303.79
Error in lat.and dep.			1.31			.43

For certificate of assistants see book "V" of this Group.

For oaths of U. S. Surveyors see same book.

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Page

BOOK A-413

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, ..., U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of .....

For certificate of assistants see book "V" T.39 S , R.36 E.

of the ..... Meridian, in the State of .....

which are represented in the foregoing field notes as having been executed 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 executed.

NAME.	PERIOD OF SERVICE.		CAPACITY.
	BEGUN.	ENDED.	

Subscribed and certified to before me on the dates of the final service as shown above.

.....

6—2761 *U. S. Surveyor.*

BOOK A-413

FINAL OATH OF UNITED STATES SURVEYOR.

I, ..., U. S. Surveyor, do solemnly swear that, in pursua
of special instructions received from the U. S. Surveyor General for .....
bearing date of the ..... day of ....., 191 , I have well, faithfully, and tru
in my own proper person, and in strict conformity with said instructions, the Manual of Survey
Instructions, and the laws of the United States, surveyed all those parts or portions of .....

For final oaths of U.S.Surveyors see book "V" T.39 S., R.26 E.

..... of the .....
..... Meridian, in the State of ....., which are represente
the foregoing field notes as having been executed by me, and under my direction; and I do furt
solemnly swear that all the corners of said survey have been established and perpetuated in strict acc
ance with the Manual of Surveying Instructions, and the special written instructions of the U. S. Surve
General for ..... and in the specific manner described in the field notes, and
the foregoing are the original field notes of such survey.

U. S. Surveyo

Subscribed by said ....., and sworn to before me
this ..... day of ....., 191

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, March 8 , 191

The foregoing field notes of the survey of the North, and retracement of the South and East Boundaries of Township No.39 S., Range No.26 East, of the Salt Lake Base and Meridian, Utah,

executed by Daniel B.Miller and Joseph C.Thoma
under ~~his~~ their special instructions dated July 24 special instructions dated March 26,1912, and supplemental, 191 2, having
critically examined, and the necessary corrections and explanations made, the said field notes, and
surveys and retracements they describe, are hereby approved.

N. Thorsen
U. S. 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 offi

U. S. Surveyor Gener