Volume

# #

R0435

BOOK A-435 A.

FIELD NOTES

OF THE SURVEY OF THE

EAST AND SOUTH BOUNDARIES OF TOWNSHIP 18 SOUTH, RANGE 3 EAST,

SOUTH, EAST, AND NORTH BOUNDARIES OF TOWNSHIP 18 SOUTH, RANGE 4 EAST,

EAST AND NORTH BOUNDARIES OF TOWNSHIP 17 SOUTH, RANGE 4 EAST,

EAST AND WEST BOUNDARIES OF TOWNSHIP 16 SOUTH, RANGE 4 EAST,

AND

EAST BOUNDARY OF TOWNSHIP 15 SOUTH, RANGE 1 EAST.

Of the SALT LAKE BASE AND *Meridian,*

In the State of U T A H

EXECUTED BY

HOWARD W. MILLER AND THOMAS C. RATHBONE

In the capacity of U. S. Surveyor and U.S.Transitman, under instructions dated July 19, *191*3 *issued by the United States Surveyor General to govern surveys included in Group No.* 25, *which were approved by the Commissioner of the General Land Office,* August 13, *191*3, *pursuant to authority contained in the Act of Congress dated* ....., *191*....

Survey commenced July 27, *191*3

Survey completed August 20, *191*3.

BOOK A-435

INDEX DIAGRAM.

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

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

6—151

BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 18 S, Range 3 E

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

4—1817

chains

Survey commenced July 27,1913. and executed with a Young and sons light mountain transit No. 8147, with solar attachment. The horizontal limb is provided with two double verniers , placed opposite to each other and reading to single minutes of arc , which is also the least count of the verniers of the lat. and decl. arcs. The instrument was approved for use in this survey by Mr. G.D.D.Kirkpatrick, Assistant Supervisor of Surveys. I examine the adjustments of the transit and correct the level and collimation errors , then, to test the solar apparatus ,by comparing its indications resulting from solar observations made during am. and pm. hours with a meridian determined by observations made on Polaris , I proceed as follows:

At my camp which is situated near the ½ sec. cor. on the E. bdy. of sec.13 ,T.18 S.,R.3E., in approximate lat. 39° 15'N., longitude 111° 34'W.; I set off 39°15' on the lat. arc , 19° 13'N., on the decl. arc ; and at 4h. 36m. pm. lmt., determine with the solar a meridian , and mark the direction of the line thus determined by a nail driven in a peg , set firmly in the ground about 5 chs. N. of my station.

At 8h. 02m.pm.lmt., I make an hour angle observation on Polaris in accordance with the Manual of Instructions and mark the direction of the line thus determined on a peg , set firmly in the ground , about 5 chs. N.

Correct lmt. of obsn. July 27,1913. ---------- 8h.02m.p.m.
Correct lmt.of U.C.Pol. July 27,1913
reduced to long.111° 34'W. ---------- 5h.10m.a.m.
Time elapsed bet.U.C.Pol. and time of obsn. 14h.52m.
Subtract from ---------- 23h.56.1m.
Hour angle of Pol. at obsn. ---------- 9h.04.1m.
Azimuth of Pol. at obsn. ------- 1° 01'E.

July 27,1913.

July 28 : At 7 h. 30 m. a. m. l. m. t., I lay off the azimuth of Polaris ,1° 01' to the W. and find that the Polaris meridian agrees with the solar meridian of July 27.

East boundary of T.18 S.,R.3 E.

chains

At 8h.06m.a.m.l.m.t., I set off 39° 15' on the lat. arc ; 19° 04'N., on the decl. arc , and determine a meridian with the solar. This meridian falls 1' to the right of the Polaris meridian and the solar meridian determined July 27.

The solar meridian determined by pm. observations agrees with the Polaris meridian and by am. observation falls 1' to the right of the Polaris meridian. I conclude that the adjustments of the instrument are satisfactory.

The mag. bearing of the true meridian at 8h.10m. a.m. is N.16° 45'W., the angle thus determined gives the mag. decl 16° 45'E.

A steel tape , 5 chs. long , was used in the field work together with a clinometer for determing slope angles and the reduced horizontal distances only appear in the field notes. The tape was tested , comparison being made with a standard tape , 1 ch. long , kept and used for that purpose.

I begin at the cor. of Tps. 17 and 18 S.,Rs.3 and 4 E., which is alimestone 10 x 8 x 8 ins. above ground , firmly, set , and marked and witnessed as described by the Surveyor General. I re-establish this cor. as follows:

Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for cor. of Tps. 17 and 18 S.,Rs. 3 and 4 E., with brass cap marked

T 17 S R 3 E S 36	R 4 E S 31
S 1 R 3 E T 18 S 1913	S 6 R 4 E

from which

An aspen , 8 ins. diam.,bears N.29°E., 17 lks. dist.,marked T 17 S R 4 E S 31 B T

An aspen , 8 ins. diam.,bears S.30°E., 30 lks.

chains

dist.,marked T 18 S R 4 E S 6 B T

An aspen , 6 ins. diam.,bears S.50°W., 15 lks.

dist.,marked T 18 S R 3 E S 1 B T

An aspen , 10 ins. diam.,bears N.3¾°W., 84 lks.

dist.,marked T 17 S R 3 E S 36 B T

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

Thence I run

South , along the E. bdy. of T.18 S.,R.3 E., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.

120.00 July 28 : At this station , I set off 19° 01'N., on the decl. arc ; and at 12 h. 06 m. p. m. l. m. t., observe the sun on the meridian , the resulting lat. is 39° 16'.

160.00 Cease work ,

July 28,1913

July 29: At 8 h. 06 m. a. m. l. m. t., I set off 39° 16' on the lat. arc ; 18° 50'N., on the decl. arc ; and determine a meridian with the solar.

Thence I continue

South , along the E. bdy. of T.18 S.,R.3 E.

230.00 July 29: At this station , I set off 18° 47'N., on the decl. arc ; and at 12 h. 06 m. p.m.l.m.t., observe the sun on the meridian ; the resulting lat. is 39° 15'

280.00 Cease work .

July 29,1913

July 30: At 8h. 36m.a.m.l.m.t., I set off 39° 14' on the lat. arc ; 18° 35'N., on the decl. arc ; and determine a meridian with the solar.

Thence I continue

South , along the E. bdy. T.18 S.,R.3 E.

July 30: I was not on line at noon , observations for lat. were impossible.

360.00 Cease work.

July 30 , 1913.

August 1 : At 7 h. 36 m. a.m.l.m.t., I set off 39° 13' on the lat. arc ; 18° 07'N., on the decl. arc ; and

East boundary of T.18 S.,R.3 E.

chains	
	determine a meridian with the solar.
	Thence I continue
	South , along the E. bdy. T.18 S.,R.3 E.
440.00	August 1: At this station , I set off 18° 03'N., on the decl. arc ; and at 12h.06m.p.m.l.m.t., observe the sun on the meridian ; the resulting lat. is 39° 13'.
484.80	A calculated distance. Set temp. cor. of Tps. 18 and 19 S.,Rs.3 and 4 E.

August 1,1913.

RANDOM S. BOUNDARY OF T.18 S.,R.3 E.

August 2 : At 8 h. 06m.a.m.l.m.t., I set off 39° 12' on the lat. arc ; 17°51'N., on the decl. arc ; and determine a meridian with the solar at the temp. cor. of Tps.18 and 19 S.,Rs.3 and 4 E.

Thence I run

West , on a random line along the S. bdy. of T.18 S.,R. 3 E., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.

40.00	August 2: At this station , I set off 17° 48'N., on the decl. arc ; and at 12 h. 06m.p.m.l.m.t., observe the sun on the meridian ; the resulting lat. is 39° 12'.
80.00	Cease work.

August 2,1913

August 4 : At 8h.06m.a.m.l.m.t., I set off 39° 12' on the lat. arc ; 17° 19'N., on the decl. arc ; and determine a meridian with the solar.

Thence I continue

West , along the S.bdy. of T.18 S.,R.3 E.

120.00	Storm of rain at 11.30 a.m. prevents further field work this day.

August 4,1913

chains	
	August 5: At 8h.06m.a.m.l.m.t., I set off 39° 12' on the lat. arc; 17° 03'N., on the decl. arc; and determine a meridian with the solar.
	Thence I continue
	West , along the S.bdy.of T.18 S.,R.3 E.
160.00	August 5: At this station I set off 17° 00'N., on the decl. arc; and at 12 h. 06m.p.m.l.m.t., observe the sun on the meridian; the resulting lat. is 39° 12'.
200.00	Cease work .
	August 5,1913.
	August 6 : At 7h.06M.a.m.l.m.t., I set off 39° 12'N., on the lat. arc; 16° 48'N., on the decl. arc; and determine a meridian with the solar.
	Thence I continue
	West , along the S.bdy. of T.18 S.,R.3 E.
280.00	August6: At this station I set of 16° 44'N., on the decl. arc; and at 12 h. 06m.p.m.l.m.t., observe the sun on the meridian; the resulting lat. is 39° 12'.
321.27	Fall 1.16 chs. S. of the cor. of secs. 4 , 5 , 32 and 33 which is a limestone , 8 x 8 x 6 ins. above ground , firmly set , and marked and witnessed as described by the Surveyor General. August 6, 1913.
	East Boundary. [illegible] 3 , 1913.
	Note: The sec. cors.on this bdy. were set in their proper places when closing the subdivisional lines of T.18 S.,R.4 E.upon the bdy. The ½ sec. cors. were set during the month of August 1914.
	From the cor. of Tps,17 and 18 S.,Rs. 3 and 4 E., heretofore described, I establish E.bdy. of T.18 S.,R.3 E. as follows:
	South , bet. secs. 1 and 6
Over mo	Over mountainous land draining NW., through dense aspen timber and undergrowth of sage and chaparral.
	Ascend.
1.30	Spur , projects W.5 chs.
	Descend 50 ft. to
8.35	Bottom of ravine and branch of Willow creek , 5 lks. wide 3 ins. deep , good water , course N.60°W.

chains

Ascend abruptly.

11.00 Leave dense aspen , thence gradually ascend through dense sage brush , near W. edge of aspen thicket.

22.00 Aspen thicket , bears E. and N.10°E.

Enter scattering choke cherry undergrowth with sage brush.

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

S 1 ¼ | S 6

1914

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

Cor, stands on NW. slope about 150 ft. above Willow creek.

57.00 Enter scattering aspen timber and dense undergrowth of choke cherry and sage brush , bears E. and W.

62.80 Ascend more gradually.

80.00 Enter dense aspen thicket , bears SE. and SW.

83.64 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 , with brass cap marked

T 18 S
R 3 E | R 4 E
S 1 | S6
S12 | S7

1913

from which

An aspen , 9 ins. diam.,bears N.28½°E., 13 lks. dist.,marked T 18 S R 4 E S 6 B T

An aspen , 8 ins. diam.,bears S.55°E., 35 lks. dist.,marked T 18 S R 4 E S 7 B T

An aspen , 11 ins.diam.,bears S.56°W., 29lks. dist.,marked T 18 S R 3 E S 12 B T

An aspen , 7 ins.diam.,bears N.22½°W., 19 lks. dist.,marked T 18 S R 3 E S 1 B T

Land , mountainous with a general NW. exposure.

Soil , rich black loam and decayed vegetation mixed with gravel on deep , moist black loam sub-soil ; 1 st. rate.

chains	
	Timber , scattering patches of aspen.
	Undergrowth , dense sage and choke cherry.and chaparral.
	Some grass , good for grazing purposes.

	South , bet. secs. 7 and 12
	Over mountainous land draining NW., through aspen timber and dense undergrowth of sage brush and scattering choke cherry.
	Gradually ascend.
5.00	Leave aspen timber , bears NE. and NW.
23.00	Top of ridge and divide between Willow Creek and Manti Canyon ,100 ft. above sec. cor., bears E. and W.
	Descend abruptly over SE. slope.
30.00	Enter dense spruce and balsam fir timber , bears E. and W.
35.00	Leave spruce and balsam fir timber , enter broken limestone ledges.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S $12\frac{1}{4}$ | S 7 1914 raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , W. of cor.
	Cor. stands on steep SE. slope amongst ledges.
42.00	Top of ledge , 50 ft. high , bears E. and W.
42.20	Base of ledge , thence descend abruptly over land facing S.into Manti Creek through very dense undergrowth of oak , service and buck brush.
59.90	Wagon road , bears E. and W.
66.36	Enter exceptionally dense undergrowth of service brush and choke cherry.
69.20	Bottom of N. fork of Manti Canyon and Creek , 20 lks. wide 4 ins. deep, good water , 1400 ft. below top of ridge , course W.
	Leave dense undergrowth , enter aspen , balsam fir and spruce timber.

East boundary of T.18 S.,R.3 E.

chains	
	Ascend.
74.25	Wood road , bears NW. and SE.
80.00	100 ft. above creek.
	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 , with brass cap marked

T 18 S
R 3 E | R 4 E
S 12 | S 7
S 13 | S 18

1913

from which

A spruce , 9 ins. diam.,bears N.40½°E., 20 lks. dist.,marked T 18 S R 4 E S 7 B T

A spruce , 15 ins.diam.,bears S.44½°E., 27 lks. dist.,marked T 18 S R 4 E S 18 B T

An aspen , 8 ins.diam.,bears S.60°W., 57 lks. dist.,marked T 18 S R 3 E S 13 B T

A spruce , 10 ins.diam.,bears N.70½°W.,27 lks. dist.,marked T 18 S R 3 E S 12 B T

Land , rough mountainous , draining N. into Willow creek on N.23.00 chs. and S. and NW. into Manti creek on S. 57.00 chs.

Soil , generally gravelly and rocky of limestone formation on rocky sub-soil ; 4th. rate. Some rich , moist , black loam soil on N.23 chs. and S.11 chs. of mile.

Timber , some aspen , spruce , balsam fir and pine.

Undergrowth , dense oak , service , buck , choke cherry and sage brush. Considerable grass , good for grazing purposes.

South , bet. secs. 13 and 18

Over mountainous land draining NW., through dense aspen , spruce and balsam fir timber and undergrowth of choke cherry and chaparral.

1.48	Stream , 4 lks. wide , 1 in. deep , good water , course NW.

chains	
	Ascend over NW. slope.
25.35	Top of spur dividing N. and S. forks of Manti Creek , 75 ft. above sec. cor., projects NW.
	Descend.
29.60	Enter creek bottom and dense undergrowth of willow , bears NW. and SE.
30.65	S. fork of Manti Creek , 20 lks. wide , 4 ins. deep, good water , 75 ft. below spur , course NW.
33.00	Leave creek bottom and willow undergrowth ,bears NW. and SE.
	Thence ascend over land sloping nearly E. on W. side of creek.
38.70	Low point , falls E. An old power wheel for mill , bears W.10 lks.
	Descend.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S $13\frac{1}{4}$ | S 18 1914 from which An aspen , 3 ins.diam.,bears East , 17 lks. dist.,marked $\frac{1}{4}$ S 18 B T A spruce , 12 ins.diam.,bears S.38°W.,27 lks. dist.,marked $\frac{1}{4}$ S 13 B T
40.20	Small ravine , drains NE.
	Ascend over low raise.
41.50	Wagon road , bears E. and W.
	Enter creek bottom and land subject to overflow ,bears E. and W.
45.50	Leave creek bottom , enter dense aspen , spruce and balsam fir timber and dense service and sage brush undergrowth.
	Ascend over NE. slope.
55.00	Enter choke cherry undergrowth , bears E. and W.
60.50	Wagon road , from Manti,Utah to Saw Mill and summit of

East boundary of T.18 S.,R.3 E.

chains	
	mountain , bears NW. and SE.
65.50	Same road , bears NE. and SW.
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 with brass cap marked

T 18 S
R 3 E | R 4 E
S 13 | S 18
S 24 | S 19

1913

from which

An aspen , 16 ins.diam.,bears N.39°E., 42 lks. dist.,marked T 18 S R 4 E S 18 B T

An aspen , 16 ins.diam.,bears S.55°E., 34 lks. dist.,marked T 18 S R 4 E S 19 B T

Am aspen , 14 ins.diam.,bears S.79°W., 24 lks. dist.,marked T 18 S R 3 E S 24 B T

An aspen ,10 ins.diam.,bears N.54°W., 26 lks. dist.,marked T 18 S R 3 E S 13 B T

Land , mountainous , draining NE. and W. into Manti creek.

Soil , rich , black loam and decayed vegetation , on deep, moist , black loam sub-soil ; 1 st, rate.

Timber , aspen , spruce , balsam fir and pine.

Undergrowth , choke cherry , service and willow and chaparral.

Considerable grass , good for grazing purposes.

South , bet. secs. 19 and 24.

Over mountainous land draining N., through dense forest of aspen , spruce and balsam fir timber and undergrowth of choke cherry , service and chaparral.

Ascend over nearly N. slope.

.50	Wagon road , from Manti , Utah, to Saw Mill and Summit of mountain , bears N.80°E. and NW.
25.50	Stream , 1 lk. wide , 1 in. deep , good water ; course NW.
37.80	Top of bench , 1000 ft. above Manti Creek , bears E. and W.

Gradually ascend across bench.

chains

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

S 24 | S 19

1914

from which

An aspen , 8 ins. diam.,bears N.48°E., 19 lks. dist.,marked ¼ S 19 B T

An aspen , 8 ins. diam.,bears West 9 lks. dist.,marked ¼ S 24 B T

61.50 Leave timber , enter exceptionally dense undergrowth of willow. Thence across swamp land.

66.50 Leave swamp land and base of high mountain (called The Bluff) , bears E. and W.

Ascend abruptly over series of small limestone ledges.

74.50 Top of ledges , enter spruce , balsam fir and aspen timber

Continue steep ascent.

80.00 On steep NW.slope , 500 ft. above ¼ sec. cor.

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 with brass cap marked

T 18 S

R 3 E | R 4 E

S 24 | S 19

S 25 | S 30

1913

from which

A spruce , 16 ins.diam.,bears S.½°E., 26 lks. dist.,marked T 18 S R 4 E S 30 B T

A spruce , 8 ins. diam.,bears S.43½°W., 61 lks. dist.,marked T 18 S R 3 E S 25 B T

A spruce , 12 ins.diam.,bears N.60°W., 19 lks. dist,,marked T 18 S R 3 E S 24 B T

No tree within limits in sec. 19 , T 18 S., R 4 E.

On account of the exceptionally steep slope on which the cor stands I am unable to build other accessories.

East boundary of T.18 S., R.3 E.

chains	
	Land , mountainous with a general N. exposure.
	Soil , N. 66.50 chs. a rich , black loam on deep , moist loam sub-soil ; 1 st. rate. S.13.50 chs. rocky soil , of limestone formation on rocky sub-soil ; 4 th. rate.
	Timber , aspen , spruce and balsam fir.
	Undergrowth , willow , choke cherry , service and chaparral. Some grass , good for grazing purposes.

	South , bet. secs. 25 and 30
	Over mountainous land draining N., through dense aspen , spruce and balsam fir timber and undergrowth of chaparral.
	Ascend abruptly over NW. slope.
3.60	Spur, 100 ft. above sec. cor., projects W.
	Gradually descend.
7.60	Head of ravine , drains NW.
	Gradually ascend.
9.60	Low spur , projects W. 10 chs.
	Leave dense timber and undergrowth , thence across flat.
15.00	Leave flat , ascend abruptly over steep NW. slope , bears NE. and SW.
18.10	Top of steep ascent , 100 ft. above base , bears NE. and SW. Enter spruce and balsam fir timber.
	Gradually ascend.
19.30	Spring branch , 1 lk. wide , 1 in. deep , course NW.
23.60	Ascend abruptly
30.90	Top of ridge and divide between Manti and Six Mile canyons 600 ft. above sec. cor., bears NE. and SW.
	Leave timber and undergrowth , thence over nearly level land on top of divide
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S $25\frac{1}{4}$ | S 30

chains

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

41.50 Leave ridge , bears NE. and SW.

Descend abruptly over S. slope.

51.50 Base of steep descent and enter nearly level bench , 300 ft. below ridge , bears E. and W.

55.15 Leave bench , bears E. and W.

Descend abruptly over S. slope through dense undergrowth of oak and service brush.

68.50 Enter dense aspen , spruce and pine timber , bears E. and W.

80.00 250 ft. below bench

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, with brass cap marked

T 18 S
R 3 E | R 4 E
S 25 | S 30
S 36 | S 31

1913

from which

An aspen , 8 ins. diam.,bears N.60¾°E., 43 lks. dist.,marked T 18 S R 4 E S 30 B T

An aspen , 5 ins. diam.,bears S.27°E., 27 lks. dist.,marked T 18 S R 4 E S 31 B T

An aspen , 5 ins. diam.,bears S.39¾°W., 31 lks. dist.,marked T 18 S R 3 E S 36 B T

An aspen , 10 ins. diam.,bears N.65°W., 91 lks. dist.,marked T 18 S R 3 E S 25 B T.

Land , mountainous draining N. into Manti canyon on N. 30.90 chs. and S. into N. Fork of Six Mile canyon on S. 49.10 chs. General drainage of country to the W.

Soil , gravelly , rocky and considerable rich moist black loam on gravelly and black loam sub-soil ; 3 rd. rate.

Timber , scattering patches of spruce , balsam fir and

East boundary of T.18 S.,R.3 E.

chains	
	aspen.
	Undergrowth , chaparral , oak , service and buck brush.
	Excellent growth of short grass , good for grazing purposes.

	South , bet. secs. 31 and 36
	Over rough mountainous land through dense spruce , balsam fir , pine and aspen timber and undergrowth of service choke cherry and chaparral.
	Descend 20 ft. to
.70	Bottom of canyon and N. Fork of Six Mile Creek , 15 lks. wide , 4 ins. deep , good water , course N.75°W.
	Ascend abruptly.
2.00	Top of steep ascent , gradually ascend.
2.90	Old road , bears E. and W.
6.50	Base of steep ascent , bears E. and W.
	Ascend abruptly over N. slope through very dense timber.
25.60	Top of steep ascent , 600 ft. above creek , bears NW. and SE. Leave dense timber , thence over rolling top of ridge through scattering timber.
36.80	Top of ascent and ridge , divide between N. and S. forks of Six Mile Canyon , 100 ft. above steep ascent , bears NW. and SE.
	Descend abruptly over SW. slope over series of small limestone ledges.
40.00	100 ft. below top of ridge.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{2}$ sec. cor., with brass cap marked S $36\frac{1}{2}$ | S 31 1914
	Raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , W. of of cor.
	Thence descend gradually over broken SW.face of mountain.
59.90	Descend abruptly into S. fork of Six.Mile Canyon.

East boundary of T.18 S.,R.3 E.

chains	
63.20	Spring branch , 2 lks. wide , 1 in. deep , good water course S.80°W.
72.48	Leave timber , descend more gradually.
78.13	Enter dense young aspen timber , bears E. and W.
80.00	600 ft. below ¼ sec. cor., Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of Tps. 18 and 19 S.,Rs. 3 and 4 E., with brass cap marked

T 18 S
R 3 E | R 4 E
S 36 | S 31

S 1 | S 6
R 3 E | R 4 E
T 19 S
1913

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

Land , rough mountainous with N. and S. exposures on N. and S. sides of divide between forks of Six Mile Canyon.

Soil , gravelly., rocky and rich black loam on gravelly and rocky sub-soil ; 4 th. rate. Rocky soil usually of limestone formation.

Timber , sprube , balsam fir , pine and aspen.

Undergrowth , chaparral , service and choke cherry brush.

Considerable grass , good for grazing purposes.

Note: The temp. point for cor. of Tps.18 and 19 S.,Rs. 3 and 4 E., heretofore described bears S.,1.16 chs. I destroy all trace of same.

South Boundary of T.18 S.,R.3 E.

August 11,1914

From the cor. of Tps. 18 and 19 S.,Rs. 3 and 4 E., heretofore above described , I establish the S. bdy. of T.18 S., R. 3 E. as follows:

West , bet. secs. 1 and 36

South Boundary of T.18 S.,R.3 E.

chains	
	Over mountainous land through dense young aspen timber and undergrowth of chaparral.
	Descend over land with general W. exposure towards S. fork of Six Mile Creek.
20.30	Descend rapidly.
24.30	Descend more gradually.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 36 $\frac{1}{4}$ S 1 1914 from which An aspen , 11 ins. diam.,bears S.38°E., 20 lks. dist.,marked $\frac{1}{4}$ S 1 B T An aspen , 9 ins. diam.,bears N.32°W., 17 lks. dist.,marked $\frac{1}{4}$ S 36 B T
43.75	Leave dense timber , descend abruptly over W. slope.
50.00	Base of steep descent and enter swamp and dense choke cherry and willow undergrowth , bears N. and S.
52.25	Leave swamp , bears N. and S. Thence through dense aspen and scattering spruce and balsam fir timber.
	Thence descend over series of small benches.
79.00	Descend abruptly into bottom of canyon
80.00	On steep SW. slope near bank of S. fork of Six Mile Creek.
	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 , with brass cap marked T 18 S | R 3 E S 35 | S 36 S 2 | S 1 T 19 S 1914 from which A spruce , 6 ins. diam.,bears N.19°E., 5 lks. dist.,marked T 18 S R 3 E S 36 B T

chains	
	An aspen , 8 ins. diam.,bears S. 28°E., 22½ lks. dist.,marked T 19 S R 3 E S 1 B T
	A spruce , 8 ins. diam.,bears S.51°W., 30 lks. dist.,marked T 19 S R 3 E S 2 B T
	A spruce , 10 ins. diam., bears N. 30°W., 11 lks. dist.,marked T 18 S R 3 E S 35 B T
	Land , mountainous with a general W. exposure.
	Soil , gravelly and rich black loam and decayed vegetation on deep , moist black loam and gravel sub-soil ; 1 st. rate.
	Timber , aspen with scattering patches of spruce , balsam fir and pine.
	Undergrowth , dense chaparral with some service and choke cherry brush. Good grass for grazing purposes.

	West , bet. secs. 2 and 35
	Over rough mountainous land through dense aspen , spruce , balsam fir and pine timber and undergrowth of service chaparral and choke cherry brush.
	Descend abruptly.
,1.00	Bottom of canyon and S. fork of Six Mile Creek , 30 lks. wide , 3 ins. deep in wash 1 ch. wide 3 ft. deep , course NW.
	Ascend abruptly.
3.15	Spur , 60 ft. above creek , projects N.
	Gradually descend.
6.65	Enter very heavy timber,bearing N.and S.
10.65	Head of small ravine , drains N.
	Gradually ascend.
13.95	Low spur , projects N.
	Gradually descend.
17.85	Stream , 5 lks. wide 3 ins. deep , good water , course N.
	Enter swamp , bears N. and S. and dense undergrowth.
23.00	Leave swamp , ascend over NE. slope.

South boundary of T.18 S.,R 3 E.

chains	
27.55	Ascend more gradually.
31.56	Spur , 150 ft. above swamp and 200 ft. above creek , projects N.
	Gradually descend over NW. slope.
h40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 35 / $\frac{1}{4}$ S 2 1914 from which An aspen , 8 ins. diam.,bears S.45°W., 7½ lks. dist.,marked $\frac{1}{4}$ S 2 B T An aspen , 12 ins.diam.,bears N.7°W., 32 lks. dist.,marked $\frac{1}{4}$ S 35 B T
	Small ravine , drains NW. August 11,1914
	August 13,1914:
44.50	Small ravine , drains NW. Gradually ascend.
54.50	Top of spur , 75 ft. above ravine , projects N.
	Descend abruptly over W. slope.
60.45	Base of steep descent,190ftbelow spur , course N.
	Enter exceptionally dense undergrowth of willow , choke cherry and service brush.
	Gradually descend.
69.60	Bottom of ravine , drains N.
	Gradually ascend.
75.48	Begin steeper ascent.
80.00	On top of low spur , 50 ft. above ravine , projects NW.
	Set an iron post , 3 ft. long , 3 ins. dia., 24 ins. in the ground for cor. of secs. 2 , 3 , 34 and 35 , with brass cap marked T 18 S | R 3 E S 34 | S 35 S 3 | S 2 T 19 S 1914 from which

chains	
	An aspen , 9 ins. diam.,bears N.14½°E.,11 lks. dist.,marked T 18 S R 3 E S 35 B T
	An aspen , 6 ins. diam.,bears S. 51¼°E., 21 lks. dist.,marked T 19 S R 3 E S 2 B T
	An spruce , 10 ins. diam.,bears S.51¾°W., 48 lks. dist.,marked T 19 S R 3 E S 3 B T
	An aspen , 5 ins. diam.,bears N.58¼°W., 26 lks. dist.,marked T 18 S R 3 E S 34 B T
	Land , mountainous draining N. into S.fork of Six mile creek.
	Soil , rich black loam and decayed vegetation on deep , moist black loam sub-soil ; 1 st. rate.
	Timber , dense aspen , spruce , balsam fir and pine of good quality.
	Undergrowth , dense choke cherry , service , chaparral willow and buck brush. Considerable grass , good for grazing purposes.

	West , bet. secs. 3 and 34
	Over mountainous land draining N. into Six Mile Canyon through dense aspen and scattering spruce and balsam fir timber and undergrowth of service , choke cherry and chaparral.
	Descend
3.50	Small ravine , 25 ft. below sec. cor., course N.
	Gradually ascend.
8.35	Spur , 75 ft. above ravine , projects N.
	Descend 15 ft. to
9.20	Stream , 5 lks. wide , 2 ins. deep , good water , course N. Gradually ascend.
14.50	Spur , 50 ft. above stream , projects N. Wood road on spur , bears N. and S.
	Gradually descend.
16.50	Ravine , 50 ft. deep , drains N.
	Gradually ascend along broken N. slope.

South Boundary of T.18 S.,R.3 E

chains	
23.20	Spur , 50 ft. above ravine , projects N.
	Gradually descend.
28.75	Stream ; 5 lks. wide , 2 ins. deep , good water , course N.
	Gradually ascend over rolling mountainous land.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S 34
$\frac{1}{4}$

S 3
1914

from which

A pine , 12 ins. diam.,bears S.73°E., 13 lks. dist.,marked $\frac{1}{4}$ S 3 B T

A pine , 28 ins.diam.,bears N.30°W., 58 lks. dist.,marked $\frac{1}{4}$ S 34 B T

49.60	Stream , 5 lks. wide , 3 ins. deep , good water ,course N.
	Gradually ascend.
53.75	Low spur , projects N.
	Gradually descend.
56.71	Stream , 10 lks. wide , 2 ins. deep , good water , course N.
	Gradually ascend.
66.00	Foot of steep ascent , bears NW. and SE. Enter dense undergrowth of service and buck brush. Ascend abruptly.
75.00	Top of ridge , 200 ft. above creek , bears NW. and SE: Leave timber and dense undergrowth , thence gradually descend over nearly W. slope through dense sage brush and scattering oak and service.
80.00	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of secs. 3 , 4 , 33 and 34 , with brass cap marked

T 18 S	R 3 E
S 33	S 34
S 4	S 3

T 19 S
1914

chains	
	from which
	A pine , 5 ins. diam.,bears N.56½°E., 75 lks. dist.,marked T 18 S R 3 E S 34 B T
	An oak , 4 ins.diam.,bears S.22°E., 25 lks. dist.,marked T 19 S R 3 E S 3 B T
	An oak , 4 ins.diam.,bears S. 22°W., 93 lks. dist.,marked T 19 S R 3 E S 4 B T
	An oak , 5 ins.diam.,bears N.39½°W., 84 lks. dist.,marked T 18 S R 3 E S 33 B T
	Land , mountainous with a general N. exposure.
	Soil , generally a rich black loam and decayed vegetation mixed with gravel on deep rich , moist black loam sub-soil ; 1 st. rate.
	Timber , pine , aspen spruce and balsam fir of good quality.
	Undergrowth , chaparral , service and buck brush. Some sage on W. 5 chs. Good grass for grazing purposes.
	August 13,1914
	August 20,1914: West , bet. secs. 4 and 33
	Over mountainous land through dense undergrowth of short sage brush and scattering oak and service brush.
	Gradually descend over NW. slope.
7.50	Enter dense aspen timber and oak brush. Descend abruptly.
14.75	Foot of steep descent , 160 ft. below sec. cor., bears N. and S.
	Gradually descend.
15.50	Head of ravine , drains N.
	Gradually ascend.
17.50	Low spur , projects NW.
	Descend.
20.33	Leave dense timber , thence through scattering timber and dense sage brush across flat.
28.37	Leave flat , enter dense aspen , balsam fir and spruce timber.

South boundary of T.18 S.,R.3 E.

chains	
32.00	Descend abruptly.
33.50	Stream , 10 lks. wide , 2 ins. deep , good water , 40 ft. below top of steep descent , course N.
	Gradually ascend.
34.15	Low spur , projects NW.
	Descend.
37.62	Spring branch , 4 lks. wide , 2 ins. deep , good water , course N.
38.44	Enter swamp with dense undergrowth of willow , service and choke cherry brush , bears N. and S.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 33 $\frac{1}{4}$ S 4 1914 from which An aspen , 8 ins. diam.,bears N.$7\frac{1}{2}$°E., $14\frac{1}{2}$ lks. dist.,marked $\frac{1}{4}$ S 33 B T An aspen , 12 ins.diam.,bears S.34°E., 18 lks. dist.,marked $\frac{1}{4}$ S 4 B T
41.00	Stream , 5 lks. wide , 3 ins. deep , good water , course NW.
43.00	Stream , 10 lks. wide , 1 in. deep , course N.
	Leave swamp and dense undergrowth , gradually ascend.
45.35	Spur , 35 ft. above swamp, projects NW.
	Gradually descend.
49.35	Enter very dense aspen timber and choke cherry undergrowth.
51.30	Bottom of small ravine drains NW. Enter dense forest of spruce , gradually ascend.
53.33	Top of spur , 40 ft. above ravine , projects N.
55.23	Descend gradually.
60.32	Descend more gradually.
62.90	Small ravine , 50 ft. below spur , course NW.
	Ascend gradually.

South boundary of T.18 S.,R.3 E.

chains	
66.47	Leave timber, enter dense service, sage and buck brush, bears N. and S.
67.35	Base steep descent, bears NW. and SE. Ascend abruptly over NE. slope.
73.90	Top of ridge, 125 ft. above ravine, bears NW. and SE. Thence gradually descend over top of ridge through dense sage brush, scattering oak and service brush.
81.27	The cor. secs. 4,5,32 and 33 heretofore described. I re-establish this cor. as follows: Set an iroh post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground alongside old cor. for cor. secs. 4,5,32 and 33, with brass cap marked

T 18 S | R 3 E
S 32	S 33
S 5	S 4

T 18 S
1914

raise a mound of stone, 2 ft. base , 1½ ft. high, W. of cor.
Land, mountainous with a general N. exposure.
Soil, decayed vegetation and black loam mixed with gravel, on deep, rich moist black loam sub-soil; 1 st. rate.
Timber, aspen , spruce, balsam fir and pine.
Undergrowth, sage, choke cherry, service, oak willow and chaparral. Considerable grass, good for grazing purposes.
August 20,1914

For General Description see subdivision of T.18 S.,R.3 E.,

For final oaths of assistants and Surveyor see book " "
of this survey.

Howard W. Miller

U.S.Surveyor.

Blank

Page

BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 18 S, Range 4 E

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

6—4517

Chains

Survey commenced August 6, 1913, and executed with a Y.& S light mountain transit, No 8147, 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 lat. and declination arcs. Chaining was executed with 5 chain. steel tapes and clinometers reading to 5 minutes of arc. Instruments were approved by the Assistant Supervisor of surveys for this district.

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

At the cor. of Tps. 18 and 19 S., Rs. 3 and 4 E., heretofore described, in latitude 39°12'N., Longitude 111°34'W., I set off 39°12' on the lat. arc, 16°41'N. on the decl. arc at 4h36m.p.m.;.l.m.t. and determine a meridian with the solar and mark a point thereof on a tack in a stake driven firmly in the ground, 5 chs. N. of the cor.

At 10h 31m p.m.,by my watch which is 2 m. slow of l.m.t.,I observe Polaris at Eastern Elongation in accordance with the Manual of Instructions, and mark a point in the line thus determined on the stake driven in the ground 5 chs. N. of my station.

August 6, 1913.

August 7: At 7h 45m a.m., l.m.t. I lay off the azimuth of Polaris, 1°30'. to the west, and mark the meridian thus determined by a tack in the stake set on August 6. on which the meridian practically coincides with the mark determined with the solar.

At 8h06m a.m., l;m.t.,I set off 39°12' on the lat. arc, 16°30'N. on the decl. arc, and mark a point in the meridian determined with the solar, by a tack driven in the stake already set 5 chains. north of my station. This

South Boundary of T.18 S., R.4 E.,

Chains

falls 0.6 inch. east of the meridian established by the Polaris observation

The Solar apparatus, by a.m., and p.m., observations defines positions for meridians respectively 0" and 31"E. of the meridian established by Polaris observations, therefore I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8^h30^m a.m., is N.17°30'W.;the angle thus determined gives the mag. decl. 17°30'E.

Thence I run

East on a true line, bet. secs. 6 and 31

Over rough mountainous land, with S.W. exposure, ascending abruptly from S. fork of Six Mile Canyon, through dense forest of aspen and fir timber, and slight chaparral undergrowth.

2.60 Leave aspen timber, bears N. and S., thence through scattering fir timber.

18.00 Top of steep ascent, bears NW. and SE. 470 ft. above the Tp cor., thence asc. more gradually. Enter dense fir timber, bearsN. and S.

23.30 Ascend abruptly over steep rocky ledge, bears NW. and SE., leave timber. bears N. and S.

27.00 Top of ridge, bears NW. and S., 200 ft. above the base of ledge, thence descend over rocky east slope.

35.00 Hollow, 100 ft. below top of ridge, drains north, thence ascend.

38.82 Allowing for convergency,

Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked

S 31
$\frac{1}{4}$

S 6
1913

and raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, north of the co r.

Chains

Thence over rolling mountain top

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

T 1 8 S R 4 E

S 31	S 32
S 6	S 5

T 1 9 S

1913

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

Land, rough mountainous in W. half., rolling mountainous in E.half. W. half drains S.W., E. half drains N.

Soil, rocky and stony on rock sub-soil. 4th. rate.

Timber, 20 chs. fir and 3 chs. aspen in W. half, no timber in E. half..

Slight undergrowth of chaparral covers the mile.

Mountainous or heavily timbered land, 38.92 chs.

East, bet secs. 5 and 32.

Over open, rolling mountain top of divide bet. N. and S. forks of Six Mile Canon.

11.50 Leave rolling mountain top, bears N.80°E. and S.80°W. Thence along steep rocky S. slope, Descending.

16.00 Head of hollow drains S. 80 ft. below the cor. Asc.

20.60 Top of spur, 75 ft. above cor., projects S. Descend gradually along S. slope of mtn. Enter scattering fir timber.

26.50 Descend abruptly over rocky S.E. slope of mountain, leave timber. bears NE. and SW.

40.00 Set an iron post 3 ft. long, 1 in. diam., 24 ins. in mound of stone and earth, 4 ft. base, 2 ft. high, for ¼ sec. cor., with brass cap marked

S 3 2

¼

S 5

1 9 1 3

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

Chains

Note.- On account of natural obstacles I am unable to set post in ground.

42.60 Spring branch in hollow, 3 lks. wide, 1 in. deep, course S. ; good water. Thence begin ascent over S.W. slope towards high divide bet. San Pete and Castle Valleys. 60 ft. below the $\frac{1}{4}$ sec. cor.

72.50 Top of steep ascent, bears N.W. and S.E., 200 ft. above spring, ascend gradually over stony ground.

80.00 Set an iron post, 3 ft. long, 3 ins in dia., 24 ins in the ground, for cor. of secs, 4, 5, 32 and 33 with brass cap marked

T 18 S R 4 E
S 32 | S 33
S 5 | S 4
T 19 S
1913

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

Cor. stands on flat top of divide.

August 7 : At this sec. cor., I set off 16° 27' N., on the decl arc ; and at 12 h. 05 m. p. m. l. m. t., observe the sun on the meridian, the resulting lat. is 39° 12'

Land, rough mountainous except the first and last 10 chs., which is over rolling mountain top. S. exposure and drainage S.

Soil, crumbled and disintegrated rock, 4th. rate.

Timber, about 6 chs. of scattering fir are on the first half of the mile.

Undergrowth, sparse buck and sage brush.

Mountainous land, 61 chs.

East, bet. secs. 4 and 33.

Over open top of divide between San Pete and Castle Valleys ascending gradually through sparse sage brush.

15.40 Main top of divide, bears N. and S.; thence descend abruptly over E. side of divide. Main top is 60 ft. above the cor.

South Boundary of T.18 S., R.4 E.

Chains	
19.88	Bottom of large snow slide; descend rapidly through grass bunch
24.72	Descend more gradually towards ravine.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24ins. in ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 33 $\frac{1}{4}$ S 4 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. Cor stands 280 ft. below top of divide. Descend over rolling land through buckbrush.
46.01	Gulch, 10 lks. wide, 1 ft. deep, drains S.E. Ascend over small spur. Gulch is 60 ft. below the cor.
49.00	Small spur, projects S.E. 50 ft. above the gulch. Desc.
53.27	Creek, 10 lks. wide, 6 ins. deep, course S.E.; good water in ravine 10 ft. wide. 80 ft. below spur. Asc.
60;35	Dim wagon road bears N.W. and S.E. Low ridge bears N.W. and S.E. Descend.
60.75	Gulch, 12 lks. wide, 10 ft. deep drains S.E. Ascend.
67.64	Wagon road bears N.W. and S.E.
79.01	Enter forest of aspens, Bears N.E. and S.W.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34, with brass cap marked T 18 S R 4 E S33 | S34 S4 | S3 T 19 S 1913 from which An aspen, 10 ins. dia., bears N. 80¼° E., 64 lks. dist. marked T 18 S R 4 E S 3 4 B T An aspen, 14 ins. dia, bears S 45° E., 46 lks. dist, marked T 1 9 S R 4 E S 3 B T An aspen, 10 ins. dia, bears S 32½° W, 14 lks. dist, marked T 1 9 S R 4 E S 4 B T An aspen, 12 ins. dia, bears N 21¼° W, 7 lks dist, marked T 1 8 S R 4 E S 33 B T
	Land First 20 chs. rough and mountainous, subject to snow

South Boundary of T.18 S., R.4 E.

Chains	
	slides. Last 20 chains rolling, with a general S.E. exposure.
	Soil on the first 20 chains is rocky and stony ; on the last 60 chains it is a moist black fertile loam, too steep for farming, 2nd and 3rd. rate
	Timber- the last chain is covered with aspen timber
	Undergrowth- sage brush covers the first 20 chains, and buck-brush willows and bunch grass cover the last 60 chains
	Good for grazing.
	August.7, 1913
	August 8: At 7hr.35m. am. l.m.t., I set off 39°12' on the lat. arc; 16°14'N on the decl. arc., and determine a meridian with the solar at the cor. of secs. 3, 4, 33 and 34. Thence I run
	East bet. secs.3 and34
	Over rough mountainous land draining S. Ascend gradually through grove of aspens and choke cherry and buck brush.
1.60	Low ridge bears NW. and SE. 25 ft. above the cor. Desc.
4.00	Small hollow drains SE. 35 ft. below the cor. Asc.
30.00	Leave aspen timber bears NE. and SW.; thence over nearly level land. 90 ft. above the hollow.
32.00	Ascend rapidly.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 34 $\frac{1}{4}$ S 3 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
42.00	Ascend more gradually
73.00	Enter grove of pine timber, bears E. and NW.; thence cross a number of small springs, course SW. leave under growth.
75.40	Leave pine timber and springs; thence ascend abruptly over crumbling gypsum ledges, bear N. and S.
78.80	Top of gypsum ledges, bear N. ans S. 350 ft. above the $\frac{1}{4}$ sec. cor. Some selenite crystals found here. thence over

Chains	
	level open mountain top.
80.00	Set an iron post, 3 ft. long, 3 ins. dia.,24 ins. in the ground, for cor. of secs. 2, 3, 34, and 35, with brass cap marked T 18 S R 4 E S 34 | S 35 S 3 | S 2 T 19 S 1913 raise a mound of stone, 2 ft. base. 1½ ft. high,W. of cor
	Land, rough mountainous, with drainage S.
	Soil is generally a black loam, moist in places from seeps and springs Crumbling gypsum ledges outcrop on the last 2 chains. 3rd. and 4th. rate.
	Timber - There are 30 chains of aspen timber in the first half, and about 3 chains of pine in the last half.
	Undergrowth of buck-brush and choke- cherry is scattered over the first 70 chs.
	Excellent for grazing.
	Mountainous or heavily timbered land, 80 chs.
	East bet. secs. 2 and 35.
	Over open mountain top, ascending gradually along S. side
7.00	Spur projects S. 5 chs., thence descend gradually along gypsum ledge, which bears SW. and NE. 50 ft. above cor.
12.00	descend into head of hollow, drains S. Ascend.
17.30	Ascend gradually
28.80	Top of gypsum spur, projects S 20°E, 10 chains. Descend gradually.
35.73	Enter pine timber, bears N. and SE.
36.80	Leave pine timber, bears N.and S. Descend rapidly towards brink of steep slide
38.30	Point for ¼ cor.will fall on steep ledge, on which it would be impossible to set cor.; therefore I perpetuate the cor. at this point, as follows:

South Boundary of T. 18 S., R.4 E.

Chains	
	Set an iron post, 3 ft. long, 1 in. diam., 24 ins in the ground, for witness cor. to ¼ sec. cor., with brass cap marked
	T 18 S R 4 E S35 W C ¼ S 2 T 19 S 1913
	from which
	A spruce, 27 ins, dia. bears S 42°W.,210 lks. dist., marked W C ¼ S 2 B T
	raise a mound of stone, 2 ft, base, 1½ ft. high, N. of cor.
	Note.- No other tree within limits in sec.35.
	August 8: At this cor. I set off 16°10'N. on the decl. arc and at 12h.05m. l.m.t., observe the sun on the meridian; the resulting lat. is 39° 12' N.
38.80	Brink of steep slide, bears N.70°E.,and S.70°W. Thence descend very abruptly over face of slide.
40.00	Point for ¼sec. cor. comes in face of slide. Cor.not set.
43.00	Bottom of slide, 250 ft. below top, bears NE. and SW. Thence over level bench through dense undergrowth of willows.
46.00	Leave dense willows.bear N. and S.
54.00	Brink of another steep slide, Descend very abruptly over precipitous face of slide, bears NE. and SW.
67.00	Bottom of slide, bears NE. and SW., 650 ft. below top.; thence descend more gradually through dense undergrowth of willows.
71.00	Ravine drains S.; thence continue to descend; leave willows.
80.00	Set an iron post 3 ft. long, 3 ins. diam.,24 ins. in the ground, for cor. of secs. 1, 2, 35 and 36, with brass cap marked
	T 18 S R 4 E S 35 | S36 S 2 | S 1 T 19 S 1913

South Boundary of T.18 S.,R.4 E.

Chains raise a mound of stone, 2 ft. base, 1½ ft. high, west of the cor.

Cor. stands on SE. slope of ridge, 130 ft. below base of the last slide.

Land, very rough and mountainous, broken by bare steep slides and ledges, of stratified gypsum and sandstone.

Soil, generally rotted and disintegrated stone, except on the benches, which contain strips of good rich loam, 2nd. rate, remainder, 4th. rate.

About one chain. of pine timber on the first half.

Dense willow undergrowth covers about three chains of the mile, on the benches. Poor grass for grazing.

East, bet. secs. 1 and 36

Over mountainous land, general drainage SE, descend rapidly through sage and scattering buck brush.

9.38 Enter aspen timber, bears N. and S., Head of small hollow drains S., 70 ft. below the cor. Ascend.

16.00 Top of ridge, bears NE. and SW., 160 ft. above the hollow, Descend.

25.71 Leave aspen timber, bears N.10°E. and S.10°W.

25.90 Bottom of steep descent, bears NE. and SW., 220 ft. below the ridge; thence over hilly land, through sagebrush under growth.

33.91 Leave sagebrush, bears N. and S., and enter aspen timber, bears same.

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

$$\frac{S\ 36}{\frac{1}{4}}$$

$$\frac{S\ 1}{1913}$$

from which

An aspen, 7 ins. in dia., bears N.30½°E., 22 lks. dist., marked S 36 ¼ BT

An aspen, 10 ins. dia., bears S.4½°W., 85 lks. dist., marked S 1 ¼ BT

South Boundary of T.18 S.,R.4 E.

Chains	
	Descend gradually, leave aspen timber, bears N. and S.
42.00	Head of hollow, 30 ft. below the cor., drains N. Ascend.
54.75	Top of ridge, bears N. and S., 225 ft. above hollow. Desc. through undergrowth of sage brush.
62.83	Leave sagebrush undergrowth, bears N. and S. and enter aspen timber, bears same.
63.00	Head of hollow, 80 ft. below ridge, drains NE. Ascend.
66.00	Spur, 20 ft. above the hollow, projects N.5 chs. Desc.
70.38	Hollow, 30 ft. below spur, drains NW. Asc. gradually.
76.23	Leave aspen timber, bears N. and S., Small ridge, 40 ft. above the hollow, bears N. and S. Descend.
77.00	Hollow, 10 ft. below low ridge, drains N. Asc. gradually.
77.35	Note:- See end of this mile for closing cor. of Ts.18 and 19 S., R.4 E., set at this point on October 28, 1913.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of Tps. 18 and 19 S., Rs. 4 and 5 E., with brass cap marked

T 18 S
R 4 E | R 5 E
S 36	S 31
S 1	S 6
T 19 S
1913

raise a mound of stone, 2 ft. base, 1½ ft. high, south of the cor.

Note:- This cor. was destroyed on Oct. 28, 1913.

Land, rough mountainous, with general drainage NE.

Soil, light loam mixed with disintegrated rock, on a rocky subsoil, 4th. rate.

About 25 chs. of aspen timber occur on the mile, but there is practically no coniferous timber.

Undergrowth of sage and buck brush covers the open land.

August 8, 1913

Note:- In accordance with letter from the U.S.Surveyor-general for Utah, dated October 16, 1913, pertaining to the elimination of a conflict found to exist in the SE. cor. of T.18 S.,R.4 E., I destroy the cor. of Tps. 18

South Boundary of T. 18 S. R. 4 E.

Chains

and 19 S., Rs. 4 and 5 E., and leave a temp. point at the same place.

October 28, 1913: At 8h 44m a.m., l.m.t., I set off 39° 12' on the lat. arc, 13°03'S. on the decl. arc, and determine a meridian with the solar at the temp. cor. of Ts. 18 and 19 S., Rs. 4 and 5 E.

Thence

West on blank line bet. secs. 1 and 36.

2.65 Intersect the west bdy. of T. 19 S. R. 5 E. 34.95 chs. S. of the true point for closing cor. of Ts. 18 and 19 S. R. 5 E., which is 61 lks. west of the old witness cor. to closing cor. of Ts. 18 and 19 S., R. 5 E., which is an iron pipe, 3 ins. dia., 8 ins. above ground, marked and witnessed as described by the Surveyor General.

NOTE: Knowing that another closing cor. will be necessary for T. 18 S., Rs. 4 and 5 E., I destroy all marks on this cor. pertaining to T. 18 S. and leave it standing for W.C. to C.C. N.W. cor. T. 19 S. R. 5 E.

At the intersection with the west bdy. of T. 19 S. R. 5 E., I set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground for closing cor. of Ts. 18 and 19 S. R. 4 E. with brass cap marked

T 18 S
R 4 E | R 5 E
S 36 | S 31
S 1 | S 6
R 4 E | R 5 E
T 19 S

1913

raise a mound of stone, 2 ft. base, 1½ ft. high west of the cor.

October 28, 1913.

East Boundary of T. 18 S., R. 4 E.

August 11, 1913: At 8h 05m a.m., l.m.t., I set off 39°

East Boundary of T. 18 S., R. 4 E.

Chains	
	12' on the lat. arc, 15°21'N. on the decl. arc, and determine a meridian with the solar at the cor. of Tps. 18 and 19 S., Rs. 4 and 5 E. (which is later destroyed)
	Thence I run
	North bet. secs. 31 and 36.
	Over rolling mountainous land covered with dense undergrowth of sagebrush.
	Ascend gradually.
3.50	Top of low bench, bears E. and W. 20 ft. above the cor.
	Descend gradually to Cove Cr.
23.00	Enter dense aspen timber, bears E. and W.
	Leave sagebrush.
25.00	Hollow, 150 ft. below the bench, drains NE.
	Thence gradually asc. over land draining SE.
33.00	Top of spur, 80 ft. above the hollow, projects E. 6 chs.
	Descend.
34.95	See end of this half mile for closing cor. to Tps. 18 S. Rs. 4 and 5 East, set at this point on October 28, 1913.
40.00	Set an iron post, 3 ft. long, 1 in. diam., 24 ins. in the ground for $\frac{1}{4}$ sec. cor. with brass cap marked $S\ \frac{1}{4}\ 36 \mid S\ 31$ 1913 from which An aspen, 12 ins. diam., bears N. $43\frac{1}{4}°$ W., 38 lks. dist. marked $\frac{1}{4}$ S 36 B T. An aspen, 12 ins. diam., bears S. $83\frac{1}{4}°$ E., 52 lks. dist. marked $\frac{1}{4}$ S 31 B T.
	October 28: See page 35 for solar observation this day.
	For reasons explained at the bottom of page 34, I commence at this $\frac{1}{4}$ sec. cor. and run
	South bet. sec. 31 and 36.
5.05	Intersect the N. bdy. of T. 19 S. R. 5 E., 2.65 chs. east of the true point for the NW. cor. of T. 19 S., R. 5 E. At the intersection I set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground for closing cor. of

East Boundary of T. 18 S., R. 4 E.

Chains

T. 18 S., Re. 4 and 5 E., with brass cap marked

T 18 S
R 4 E | R 5 E
S 36 | S 31
S 6
R 4 E | R 5 E
T 19 S

1913

from which

An aspen 12 ins. diam., bears N.43¼°W.,
38 lks. dist., marked C C T 18 S R 4 E S 36 B T.
An aspen, 4 ins. diam., bears N.50½°E.,
25 lks. dist. marked C C T 18 S R 5 E S 31 B T.

October 28, 1913.

August 11, 1913: For solar observation this day see page 37 at beginning of line bet. secs. 31 and 36.

40.00 From the ¼ sec. cor. of secs. 31 and 36 on east bdy. of tp., I continue North bet. secs. 31 and 36.

45.60 Spring branch, 80 ft. below spur, 3 lks. wide 3 ins. deep course NE., good water.

Ascend.

52.00 Top of low ridge, 35 ft. above the spring branch, bears E. and W.

Descend.

67.45 Spring branch, 90 ft. below the low spur, 3 lks. wide, 3 ins. deep, course east, good water; thence descend gradually into Cove Cr.

80.00 Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground for cor. of secs. 25, 30, 31 and 36, with brass cap marked

T 18 S
R 4 E | R 5 E
S 25 | S 30
S 36 | S 31

1913

East Boundary of T. 18 S., R. 4 E.

Chains

from which

An aspen, 8 ins. diam.,bears N.40½°E.,
19 lks. dist. marked T 18 S R 5 E S 30 B T.

An aspen, 12 ins. diam.,bears S.29½°E.,
20 lks. dist. marked T 18 S R 5 E S 31 B T.

An aspen, 10 ins. diam.,bears S.69°W.,
16 lks. dist., marked T 18 S R 4 E S 36 B T.

An aspen, 8 ins..diam.,bears N.64¼°W.,
16 lks. dist. marked T 18 S R 4 E S 25 B T.

Land rough mountainous, with general drainage northerly into Cove Cr.

Soil is composed of loose decayed vegetation, mixed with rock and gravel, on rocky subsoil, 2-4th rate.

Timber, the last 60 chs. of this mile are covered with a dense forest of aspen timber of commercial value. There are a few spruce and scattering fir.

Dense undergrowth of sagebrush on the first 20 chs.

Good grass for grazing.

August 11: A heavy storm of rain at noon prevents lat. obs. and further work this day.

August 11, 1913.

August 12: At 8h 35m a.m., l.m.t., I set off 39°13' on the lat. arc, 15°03'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 bet. secs. 25 and 30.

Over rough mountainous land, draining north into Cove Cr., through dense aspen timber,some spruce and heavy un-

Chains	
	dergrowth of chaparral.
1.50	Leave timber, bears E. and W. and enter small clearing bears same.
5.00	Enter dense aspen timber, bears NE andSW., thence desc. more abruptly
14.50	Desc. very abruptly into Cove Cr., desc. bears east and west.
25.00	Cove Creek, in bottom of canyon 600 ft. below the cor., 20 lks. wide, 6 to 10 ins. deep, course East, good water, swift, on gravelly bottom. Ascend over right bank and begin steep ascent over N. side of canyon.
29.00	Top of ascent, 300 ft. above the creek, thence over nearly level land.
30.00	Enter marshy land, and heavy willow undergrowth, bears east and west.
39.00	Leave marshy land and willows, bears E. and W., thence through aspens.
40.00	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 25 | S 30

$\frac{1}{4}$

1913

from which

An aspen, 8 ins. diam. bears N.38$\frac{1}{4}$°E., 18 lks. dist., marked $\frac{1}{4}$ S 30 BT

An aspen ,10 ins. diam., bears N.2$\frac{1}{2}$°W.,48$\frac{1}{4}$lks. dist., marked $\frac{1}{4}$ S 25 BT

Corner stands on nearly flat land.

41.00	Enter swampy land, covered with slight willow undergrowth, bears E. and W.
43.95	Spring branch, 3 lks. wide, 1 in. deep, course SW., good water, sluggish current.

East Boundary of T.18 S.,R.4 E.

Chains	
44.00	Leave swampy land and willow undergrowth, bears E. and W. Thence ascend rapidly.
65.00	Leave aspen timber, bears E. and W., thence through more dense undergrowth of chamarral.
75.00	Top of ridge, bears NE. and SW., 150 feet. above the $\frac{1}{4}$ sec. cor., desc. into ravine.
79.50	Ravine, 50 ft. below top of ridge, drains S.30°W., thence ascend to high ridge.
80.00	Set an iron post, 3 ft. long, 3 ins. diam., 24 ins. in the ground, for cor. of secs. 19, 24 25 and 30, with brass cap marked

T 18 S

R 4 E	R 5 E
S 24	S 19
S 25	S 30

1913

raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, west of the cor.

Cor. stands on the right bank of bottom of ravine, 10 ft above the bottom

August 12: At this cor. I set off 15°00'N. on the decl. arc, and at 12^h05^m l.m.t., observe the sun on the meridian; the resulting lat. is 39°14'

Land, rough mountainous, with general drainage East. S. half has N. exposure; N.half,S exposure.

Soil, on the S half, is a rocky loam on rock subsoil.

About 15 chs. is on flat, swampy ground,3 and 4th rate.

Timber, about 65 chs. of heavy aspen, with some spruce and fir; no timber on the N. 25 chs.

Undergrowth, chaparral on the mile, and dense willows on the marshy areas.

Good grass for grazing purposes.

Mountainous or heavily timbered land, 80 chs.

East Boundary of T.18 S., R.4 E.

Chains	
	North bet. secs. 19 and 24.
	Over rolling mounteinous land, general drainage NE., through undergrowth of buck-brush and chaparral, ascend abruptly.
13.54	Top of steep ascent, bears NW. and SE., 1260 ft. above Cove Cr. Ascend more gradually.
15.50	Enter aspen and spruce timber, bears E. and W.
21.50	Top of ridge, bears NW. and SE., 1466 ft, above Cove Cr. Descend gradually.
24.00	Leave aspen and spruce timber, bears E. and W. Descend gradually to hollow.
37.80	Wash in head of hollow, 40 lks. wide, 20 ft. deep, course NE. 140 ft. below ridge. Asc. toward another ridge.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 6 ins. in the ground and 20 ins. in a mound of stone 2 ft. base, for $\frac{1}{4}$ sec. cor., with brass cap marked S 24 | S 19 $\frac{1}{4}$ 1913 raise a mound of stone 2 ft. base, $1\frac{1}{2}$ ft. high, West of cor.
	Note.-On account of natural obstructions I am unable to set post more than 6 ins. in the ground.
	Ascend gradually.
48.00	Top of ridge, bears NE. and SW., 100 ft. above sec. cor.
	Descend gradually.
	Enter spruce timber, bears E. and W.
58.20	Descend more abruptly toward Little Bear Cr.
80.00	Set an iron post, 3 ft. long, 3 ins. diam. 24 ins. in the ground for cor. of secs. 13, 18, 19 and 24, with brass cap marked T 18 S R 4 E | R 5 E S 13 | S 18 S 24 | S 19 1913

East Boundary of T. 18 S., R. 4 E.

Chains

from which

A spruce, 18 ins. dia. bears N.58½°E,38 lks. dist., marked T 18 S R 5 E S 18 B T

A spruce, 24 ins. diam. bears S.28° E.,78 lks. dist, marked T 18 S R 5 E S 19 B T

A spruce, 18 ins. diam, bears S. 31¼° W, 55 lks. dist marked T 18 S R 4 E S 24 B T

A spruce, 8 ins. diam. bears N. 44° W., 48 lks. dist, marked T 18 S R 4 E S 13 B T

330 ft. below ridge

Cor. stands on land sloping NE. towards Little Bear Cr.

Land, rough mountainous, with general drainage East.

Soil, generally rocky, mixed with some clay and decayed vegetation, on rock sub-soil. 3rd. rate.

Timber, About 10 chs, of aspen timber and spruce in S. half mile, and 20 chs. of spruce in N. half mile.

Dense undergrowth of buck-brush and chaparral on ½ mile.

Good land for grazing.

Mountainous or heavily timbered land, 60 chs.

August 12, 1913.

August 13: At 8^h 05^m, l.m.t., I set off 39° 15' on the lat. arc., 14° 45'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, bet. secs 13, and 18.

Over rough mountainous land, descending toward Little Bear Creek, through spruce and aspen timber, and undergrowth of buck brush and chaparral.

1.75 Leave spruce and aspen timber, bears E. and W.

2,50 Spring branch, 4 lks. wide, 2 ins. deep, course NE., good water. Ascend over right bank, thence descend gradually toward Little Bear Cr. Spring branch is 35 ft. below cor.

13.90 Little Bear Cr., 10 lks. wide, 3 ins. deep, course SE., good water, 410 ft. below top of ridge. Ascend gradually

15.60 Enter aspen and spruce timber, bears E. and W.

East boundary of T. 18 S., R. 4 E.

Chains	
36.40	Leave aspen and spruce timber, bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 13 | S 18 ¼ 1913 raise a mound of stone, 2 ft. base 1½ ft. high, West of cor. Cor stands on land sloping S., 415 ft. above Little Bear Creek.
51,80	Top of ridge, bears S. 65° E., and N. 65° W., 240 ft. above ¼ sec. cor. Descend.
57.70	Enter spruce timber, bears E. and W.
80.00	Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for cor. of secs. 7, 12, 13 and 18, with brass cap marked T 18 S. R 4 E. | R 5 E. S 12 | S 7 S 13 | S 18 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Cor. stands on N. slope of ridge above Big Bear Cr., 270 ft. below top of ridge.

August 13: At this cor. I set off 14° 42' N. on the decl. arc, and at $12^h\ 05^m$ l.m.t., observe the sun on the meridian; the resulting lat. is 39° 15'.

Land, rough mountainous, S. 52 chs. drains into Little Bear Cr., and N. 22 chs. drains into Big Bear Cr.

Soil, stony clay, mixed with some loam and decayed vegetation, on rock subsoil. 3rd. rate.

Timber, 43 chs. of spruce and some aspen.

Undergrowth, chaparral and buck-brush on 80 chs.

Mountainous or heavily timbered land, 80 chs.

East Boundary of T. 18 S., R. 4 E.

Chains.	
	North, bet. secs. 7 and 18.
	Over rough mountainius land with general slope to the E. through forest of aspen, fir and spruce, and undergrowth of chaparral. Descend.
3.00	Enter dense grove of fir; bears E. and W, leave aspens. Descend.
10.00	Spring branch, 2 lks. wide, 1 in. deep, course N.30°W. good water, 60 ft. below the cor.
11.80	Spring branch, 5 lks. wide, 2 ins. deep, course E. good water.
12.69	Spring branch, 3lks. wide, 2 ins. deep, course, N. 50° E., good water. 10 ft. below last branch.
	Leave fir timber, bears E. and W., ascend gradually.
20.00	Top of low ridge. bears E. and W., 60 ft. above cr. Desc.
21.00	Descend more rapidly into Big Bear Canyon.
23.80	Road, bears E. and W.
27.60	Big Bear Cr., 15 lks. wide, 6 ins. deep, course S80° E., good water, 365 ft. below sec. cor. Ascend abruptly over N. side of canyon.
32.50	Top of spur projects E. 1 ch., to junction of Big Bear and N. Fork Crs., 75 ft. above creek. Descend into N. Fork Cr.
34.00	N. Fork of Big Bear Cr., 10 lks. wide, 6 ins. deep, course S.30° E., good water, 80 ft. below the spur. Asc.
40.00	Set an iron post, 3 ft. long, 1 in. dia, 24 ins. in the ground, for ¼ sec. cor, with brass cap marked S. 12 ¼ | 1913 | S 7 raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Cor. stands on land facing SW., 80 ft, above the creek.
	Transit No. 8147 is damaged beyond repair in the field, preventing further field work this day.
	August 13, 1913.
	Survey completed with Young and Sons Light mountain transit No. 8584, with solar attachment. The horizontal limb is provided with two double verniers placed opposite to

Chains

each other, reading to single minutes of arc, which is also the least count of the verniers of the latitude and declination arcs.

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

August 17: At my camp, located in the N. half of Sec. 10, latitude 39°16'14", longitude 111°30'00"N., I set off 39°16' on the lat. arc.; 13°25'N. on the decl. arc., and at 4^h34^m p.m. l.m.t. determine a meridian with the solar and mark the point thereof on a tack in a stake driven firmly in the ground, 5 chs. N of my station.

At 9^h49^m pm. by my watch which carries l.m.t., I observe Polaris at Eastern Elongation, in accordance with the Manual of Instructions, and mark a point in the line thus determined on a stake driven firmly in the ground 5 chains N. of my station.

August 17, 1913.

August 18: At 7 a.m. I lay off the azimuth of Polaris, 1°30' to the west, and mark the meridian thus determined by a tack driven in the stake set last evening, on which the meridian falls 0.8 ins. east of the mark determined by the solar.

At 7^h34^m a.m., l.m.t., I set off 39°16' on the lat. arc., 13°12' N. on the decl. arc, and mark the true meridian thus determined by a tack in the stake already driven 5 chains N. of my station; this mark falls 1.0 in. east of the meridian established by Polaris observation.

The solar apparatus, by a.m. and p.m. observations defines positions for meridians, about 0'42" west and 0'53" east of the meridian established by Polaris, therefore

East Boundary of T. 18 S., R. 4 E.

Chains	
	I conclude that the adjustments of the instrument are satisfactory.
	August 20: At 8h 03m a.m., l.m.t., I set off 39°16' on the lat. arc., 12°32' N. on the decl. arc, and determine a true meridian with the solar at the ¼ sec. cor. bet. secs. 7 and 12. Thence I continue North ascending rapidly towards Wagon Road Ridge.
46.50	Enter aspen timber, bears E. and W. Ascend abruptly.
54.40	Leave aspen timber, bears NW. and E. Thence through undergrowth of sage and service brush.
80.00	Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground, for cor. of secs. 1, 6, 7 and 12, with brass cap marked T 18 S. R 4 E | R 5 E S 1 | S 6 S 12 | S 7 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, west of cor.
	Cor. stands on SW. side of wagon road ridge, 500 ft. above Creek.
	Land rough mountainous, draining into Big Bear Cr. This creek should be of value as a power stream, having considerable fall, and apparently a minimum discharge of 6- 10 sec.ft., much greater in flood season.
	Soil, composed generally of a stony clay, mixed with decayed vegetation on the timbered part, on a rock sub-soil. 3rd. rate.
	Timber, about 10 chains of aspen on the N. side of the creek, and about 12 chains of spruce on the S. half.
	Undergrowth, chaparral, sage-brush and service berry.
	Good land for grazing.
	Mountainous or heavily timbered land, 60 chs.

East Boundary of T.18 S., R.4 E.

Chains	
	North bet. secs. 1 and 6.
	Over mountainous land, draining SE., ascending over S. side of Wagon Road Ridge, through undergrowth of chaparral.
6.39	Top of steep ascent, bears NW. and SE., 75 ft. above sec. cor. Thence over flat top of ridge, through scattering pine.
16.00	Wagon road, bears NW. and SE.
20,00	Summit of Wagon Road Ridge, bears NW. and SE. Descend.
27.68	Descend abruptly over NE. slope of ridge.
	Enter heavy spruce and balsam fir timber, bears NW. and SE.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked S $1\frac{1}{4}$ | S 6 1913 from which A spruce, 10 ins. dia., bears S.$20\frac{1}{2}$°E, 102 lks. dist., marked S $6\frac{1}{4}$ B T A spruce, 10 ins. dia., bears S.70°W, 39 lks. dist., marked S $1\frac{1}{4}$ B T Cor. stands on NE. slope of ridge, 150 ft. below top. August 20: At this $\frac{1}{4}$ sec. cor. I set off 12°29' N. on the decl. arc, and at 12^h03^m l.m.t. observe the sun on the meridian. The resulting latitude is 39°16'.
	Descend abruptly; leave spruce and fir timber, bears E. and W.
40.50	Road, bears NE. and SW., connects with road on Wagon Road Ridge.
49.50	Enter exceptionally heavy spruce and fir timber, bears E. and W. Decsend more abruptly.
70.23	Base of steep descent, 700 ft. below top, bears NW. and E. Enter flat, bears NW. and SE. Leave spruce and fir timber, Bears NW. and SE.
75.20	Wash, 10 lks. wide, 5 ft. deep, drains N.20°W. Thence gradually descend over nearly flat land, through some scattering spruce timber.

East Boundary of T. 18 S., R.4 E.

Chains	
83.64	Distance equal to the west boundary of this township.
	Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground, for cor. of Ts. 17 and 18 S., Rs. 4 and 5 E., with brass cap marked

T 17 N
R 4 E | R 5 E
S 36	S 31
S 1	S 6
R 4 E	R 5 E
T 18 S
1913

from which

A spruce, 30ins. dia., bears N.39½°E., 195 lks. dist., marked T 17 S R 5 E S 31 BT

A spruce, 9 ins. dia., bears S.66½°E., 548 lks. dist., marked T18 S R 5 E S 6 BT

An aspen, 16 ins. dia., bears S.73¼°W., 482 lks. dist., marked T 18 S R 4 E S 1 BT

An aspen, 12 ins. dia., bears N 86¼°W., 593 lks. dist., marked T 17 S R 4 E S 3 6 BT

Land, rough mountainous; first ¼ mile drains SW. into Bear CR., and last ¾ mile drains NE.

Soil, old decayed vegetation, mixed with loamy clay and stones, on a rock sub-soil. 3 rd. rate.

Timber, about 30 chains of dense spruce; scattering aspens on the last 3 chains.

Undergrowth of chaparral on the 80 chains.

Valuable land for grazing.

Mountainous or heavily timbered land, 71 chains.

August 20, 1913.

North Boundary of T. 18 S., R.4 E.

August 26: At 8^h02^m a.m., l.m.t., I set off 39°17' on the lat. arc.; 10°31' N. on the decl. arc, and determine a true meridian with the solar at the cor. of Ts. 17 and 18 S., Rs. 4 and 5 E.

Thence I run

North Boundary of T. 18 S., R.4 E.

Chains	
	West on a random line, along the North boundary of T.18 S. R.4 E., setting temporary $\frac{1}{4}$ sec; and sec. cors. at intervals of 40.00 chains.
160.00	August 26: At this station, I set off 10°27' N. on the decl. arc, and at 12^h02^m l.m.t., observe the sun on the meridian. The resulting lat. is 39°17'.
320.00	Cease work.
	August 26, 1913.

August 27: At 7^h32^m a.m., l.m.t., I set off 39°17' on the lat. arc; 10°10½'N. on the decl. arc, and determine a true meridian with the solar at this station.

Thence I continue

West on a random line, and at 478.27 chs. intersect the West boundary of T.18 S.,R.4 E, 28 lks. south of the cor. of Ts. 17 and 18 S., Rs. 3 and 4 E., heretofore described. The falling answers to a correction of 0°02' or 4 2/3 lks. N. per mile, counting from the NE. cor. of the Tp.; therefore I run

S.89°58'E. bet. secs. 6 and 31, marking and blazing a true line.

Over rough mountainous land, draining SW. into Willow Cr., through forest of aspen and spruce, and chaparral undergrowth. Ascend rapidly toward bench.

18.27	Top of ascent, thence over nearly level bench. bears N & S. 150 ft. above the cor.
26.20	Leave aspen and spruce timber, bears N. and S.
29.48	Old saw-mill set, 3 chs. north. Enter thicket of aspens bears N. and S. Ascend gradually.
37.77	Spring branch, 4 lks. wide,3 ins. deep, course NW., good water.
38.27	Set an iron post, 3 ft, long, 1 in. dia.,24 ins. in the ground, for $\frac{1}{4}$ sec;cor., with brass cap marked

$$\frac{S\ 31\ \frac{1}{4}}{S\ 6\ 1913}$$

from which

An aspen, 14 ins. dia. bears S.71¾°E.,147 lks. dist.

North Boundary of T.18 S., R.4 E.

Chains

marked S 6 ¼ B T

An aspen, 10 ins. dia., bears N.65¼°W., 33 lks. dist., marked S31 ¼ B T

Cor. stands on ground about 400 ft, above Tp. cor.

Ascend abruptly towards bench.

52.91 Top of ascent, bears N. and S., thence over nearly level ground, 80 ft. above the ¼ sec. cor.

54.49 Leave aspen timber, bears NE. and SW, Enter willow undergrowth.

61.47 Spring branch. 4 lks. wide, 3 ins deep, course NW. good water.

62.67 Spring branch, 3 lks. wide, 2 ins. deep, course W., good water.

63.67 Commence abrupt ascent towards high ridge. Leave willow undergrowth, bears N. and S,

65.00 Cross large boulders, caused by washes. Enter spruce timber, bears E. and W.

74.53 Leave spruce timber, bears E. and W.

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

T 17 S R 4 E

S 31	S 32
S 6	S 5

T 18 S

1913

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

A spruce, 12 ins. dia. bears N.43°W, 30 lks, dist., marked T 17 S R 4 E S 31 BT

A spruce, 14 ins. dia. bears S. 53¼°W., 43 lks. dist., marked T 18 S R 4 E S 6 BT

Note.- No other bearing trees within limits.

Cor. stands 800 ft. above NW. cor. of Tp.

Land, mountainous, sloping SW., and having nearly level benches about 10 chs. wide, lying N. and S.

Soil, in W. half, is a rich black loam, mixed with stone

Chains	
	and decayed vegetation, with a clayey loam subsoil, 2nd rate; soil in the E. half is more stony and dry, and has a rock subsoil. 4th. rate.
	Timber, about 8 chs. of heavy spruce and fir on E. half, and about 30 chs. of aspen and spruce on the W. half. 25 chs. of aspen on E. half.
	Undergrowth of chaparral on the whole mile, and dense willow undergrowth 10 chs. around moist areas.
	Mountainous or heavily timbered land, 78.27 chains.
	S.89°58'E., bet. secs. 5 and 32
	Over rough mountainous land, ascending abruptly towards divide bet. N. Fork of Manti Canyon and Willow Cr. Canyon. through scattering spruce and aspen timber and undergrowth of chaparral
4.00	Ascend precipitously over ledges andboulders, bearing N.50°W. and S.50° E.
6.75	Top of steep ascent, bears NW. and SE. Thence ascend less abruptly.
14,00	Enter exceptionally dense aspen, spruce and pine timber, bears NW. and SE. Thence ascend more gradually.
23.26	Spring branch, 4 lks. wide, 3 ins. deep, course NW., good water. ; thence ascend more abruptly towards divide.
28.70	Top of steep ascent, bears NW. and SE., thence ascend more gradually. Leave timber, bears N. and S.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked S 32 $\frac{1}{4}$ S 5 1913
	Cor. stands on SW. slope of divide, about 100 ft. below top. and 800 ft. above sec. cor.
	Dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist, and raise a mound of earth, 4 ft. base, 2 ft. high, N. of cor.

North Boundary of T. 18 S., R.4 E.

chains	
	Ascend gradually toward top of divide.
52.71	Top of divide bet. N.Fork Manti Canyon and Willow Cr. Canyon, bears N.10°W. and S.10°E., 80 ft. above ¼ sec. cor. Thence descend over E. slope
65.00	Descend abruptly.
71.00	Base of steep descent, bears NW. and SE.; thence descend more gradually.
80.00	Set an iron post, 3 ft. long, 3 ins. dia., 24 ins. in the ground for cor. of secs. 4, 5, 32 and 33, with brass cap marked T17S R4E S 32 | S 33 S 5 | S 4 T18S 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, west of cor.
	Cor. stands 150 ft. below top of divide, on the east slope.
	Land, rough mountainous; W. 50 chs. drains into Willow Cr., E. 30 chs. drains into N.Fork Manti Cr.
	Soil, rocky and stony, on rock subsoil. 4th. rate.
	Undergrowth, thin scattering of chaparral
	Timber, a few scattering spruce and pine near the W. end of the mile.
	Land of no value for grazing
	Mountainous land, 80 chains.

	S. 89°58'E. bet. secs. 4 and 33
	Over rough mountainous land, descending gradually over E. slope of divide, through undergrowth of thin chaparral.
11.00	Descend abruptly over ledge, bears N. and S.
20.92	Bottom of steep descent, bears NE and SW. Enter aspen timber, bears NE. and SW.
26,95	Leave aspen timber, bears N. and S.; descend more abruptly.
31.00	Base of steep descent, bears N. and S. Enter aspen timber bears N. and S. thence gradually descend.
38.00	Leave aspen timber, bears N, and S.

North Boundary of T. 18 S., R. 4 E.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for ¼ sec.cor., with brass cap marked S 33 ¼ S 4 1913 from which An aspen, 8 ins. dia., bears N.57½°W., 122 lks. dist., marked S 33 ¼ B T An aspen, 8 ins. dia., bears S.85°W., 203 lks. dist., marked S 4 ¼ B T Cor. stands on E. slope of divide, about 600 ft. below top.
48.00	Spring branch, 8 lks. wide, 4 ins. deep, course SE., good water. Thence over nearly level canyon bottom, 40 ft. below cor.
48.25	North Fork Manti Cr., 6lks. wide, 6 ins. deep, course SW., good water. In head of N. Fork of Manti Canyon, bears NE. and SW. Thence commence ascent over E. side of canyon.
55.00	Ascend more rapidly
74.80	Enter pine timber, bears N. and S. Ascend abruptly.
76.00	Top of abrupt ascent, thence ascend more gradually. Leave pine timber, bears N. and S.
80.00	Set an iron post, 3 ft. long, 3 ins. dia., 12 ins. in the ground and 12 ins. in a mound of stone 2 ft. base and 1 ft. high for cor. of secs. 3, 4, 33 and 34, with brass cap marked T 17 S R 4 E S 33 | S 34 S 4 | S3 T 18 S 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, west of cor. Note.-On account of underlying rock, I am unable to set post more than 12 ins. in the ground. Cor. stands on E, side of canon, 200 ft. above the creek. Land, mountainous and broken, draining from the E. and W. into N. fork Cr. Soil, rocky and stony, on rock subsoil, 4 th.rate, except in the canyon bottom, where soil is a moist black loam

Chains	
	with stone and decayed vegetation, along the creek.
	Timber, about 13 chains of aspen on the W. half, and 5 chains of pine on the E. half.
	Undergrowth of chaparral on 80 chains.
	Mountainous or heavily timbered land, 80 chains.
	S.89°58'E. bet. secs. 3 and 34.
	Over rough mountainous land, with a general drainage S., through slight undergrowth of chaparral. Ascend toward high ridge.
9.95	Top of ridge, bears NE. and SW., 100 ft. above sec. cor.
	August 27: At this station, I set off 10°06'N. on the decl. arc, and at 12^h02^m observe the sun on the meridian, the resulting latitude is 39°17'
	Thence descend gradually over E. side of ridge. toward another fork of Manti Canyon.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for $\frac{1}{4}$ sec.cor, with brass cap marked S 34 $\frac{1}{4}$ S 3 1913
	raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, north of cor.
	Cor. stands on E. slope of ridge, 150 ft. below the top.
41.62	Base of descent, bears N.20°E.,and S.20°W., 100 ft. below the $\frac{1}{4}$ sec. cor. Thence over land sloping gently East.
54.00	Ravine, 20 lks. wide, 15 ft. deep, drains SW., is a running stream in wet seasons. Thence commence rapid ascent towards main divide bet. San Pete and Castle Valleys.
63.77	Top of steep ascent, bears N. and S., 200 ft. above the ravine. Thence ascend gradually over main top of divide. through slight undergrowth of chaparral.
80.00	Set an iron post, 3 ft. long, 3 ins. dia.,24 ins. in the

Chains	
	ground, for cor. of secs. 2, 3, 34 and 35, with brass cap marked T 17 S R 4 E S 34 | S 35 S 3 | S 2 T 18 S 1913
	raise a mound of stone, 2 ft. base, 1½ ft. high, west of the cor.
	Cor stands on the west side of the top of divide, on open, nearly flat land.
	Land rough mountainous, E. half drains W. and the W. half drains E. into a fork of Manti Creek.
	Soil, rocky and stony, mixed with some loam, on a rock sub-soil. 4th. rate.
	No timber.
	Undergrowth, chaparral
	Fair for grazing.
	Mountainous land, 80 chains.
	S.89°58'E. bet. secs 2 and 35.
	Over rolling mountainous land, gradually ascending to top of main divide, through slight undergrowth of chaparral.
10.00	Top of high divide bet. San Pete and Castle Valleys, bears N. and S. Thence gradually descend toward Big Bear Cr. Top is 80 ft. above the cor.
10.10	Head of a wash, 20 lks. wide, 10 ft. deep, drains N. into resevoir.
19.40	Road, bears NE. and SW. on top of ridge.
20.10	A resevoir, contains about 3 acres, lies north, 10 chains. Commence steep descent.
25.70	Base of steep descent, bears N. and S., thence descend more gradually into Big Bear Cr.
27.07	Ditch, 4 lks. wide, 3 ins. deep, course S. Heads from the resevoir.
38.00	Spring branch, the source of Big Bear Cr, 3 lks. wide,

Chains	
	2 ins. deep, course SE. 120 ft. below the top. Asc.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 24 ins. in the ground, for ¼ sec. cor., with brass cap marked S 35 ¼ S 2 1913 from which A spruce, 10 ins. diam, bears S.3¾°E.,302 lks. dist., marked S 2 ¼ B T raise a mound of stone, 2 ft. base, 1½ ft. high, north of the cor. Note.- No bearing tree within limits in sec. 35. Cor. stands 25 ft. above spring branch. Ascend more rapidly
51.98	South end of an old sheep corral. Enter flat bears N.&S.
66.46	Enter aspen, spruce and fir timber, bears N. and S. Leave flat and ascend toward spur.
73.65	Top of spur projects north 10 chains. Descend gradually. Leave heavy timber and enter scattering aspen, spruce and pine., bears NW. and SE.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground, for cor. of secs. 1, 2, 35 and 36, with brass cap marked T 17 S R 4 E S 35 | S 36 S 2 | S 1 T 18 S 1913 from which A spruce, 14 ins. dia., bears N 45½°E.,114 lks. dist., marked T 17 S R 4 E S 36 BT A spruce, 24 ins. dia., bears S.19¾°W., 222lks. dist., marked T 18 S R 4 E S 2 BT A spruce, 6 ins. dia., bears N 45½°W., 488 lks dist., marked T 17 S R 4 E S 35 BT raise a mound of stone, 2 ft. base, 1½ ft. high, west of the cor.

North Boundary of T.18 S., R.4 E.

Chains	
	Note.- No bearing tree within limits in sec. 1.
	Cor. stands 50 ft. below top of spur of Wagon Road Ridge.
	Land, mountainous and rolling, with a general drainage SE. into Big Bear Cr.
	Soil, rocky and stony, mixed with some clay and loam, on a rock sub-soil. 4-th. rate.
	Timber, 7 chains of heavy spruce, aspen and fir on the E. half, and 7 chains of scattering aspen spruce and fir on the E. end of the mile.
	Undergrowth, chapparal on 80 chains.
	Valuable land for grazing.
	Mountainous or heavily timbered land, 80 chains.
	S.89°58'E. bet. secs. 1 and 36.
	Over rough mountainous land, draining NE. Decsend abruptly over east side of Wagon Road Ridge, through undergrowth of chapparal and service berry.
6.69	Road, bears N.30°W. and S.30°E. Base of steep descent, bears NW. and SE., 75 ft. below sec. cor. Thence gradually descend over bench, bears N. and S.
18.06	Top of steep descent, bears N. and S. Descend abruptly.
21.84	Base of steep descent, bears N. and S, 150 ft. below top. Thence over nearly level bench, bears N, and S.
33.64	Spring branch, 5 lks. wide, 5 ins. deep, course N., good water., 30 ft. below base of descent. Desc. gradually.
36.24	Top of steep descent; thence descend abruptly. Enter dense forest of spruce timber, bears NW. and SE.
39.00	Base of steep descent and ledges, bears NW. and SE. 125 ft below bench Leave dense spruce timber, and enter aspen thicket, bears NW. and SE. Thence gradually descend.
40.00	Set an iron post, 3 ft. long, 1 in. dia, 24 ins. in the ground, for $\frac{1}{4}$ sec. cor., with brass cap marked S 36 / $\frac{1}{4}$ / S 1 / 1913

North Boundary of T. 18 S., R. 4 E.

Chains	
	from which
	A spruce, 24 ins. dia., bears N. 43¾°W., 15 lks. dist., marked S 36 ¼ B T
	A spruce, 18 ins. dia., bears S.18°E., 64 lks. dist., marked S 1 ¼ B T
	Continue gradual descent
66.04	Leave aspen thicket, bears N. and S.
78.50	Wash, 10 lks. wide, 5 ft. deep, drains N.20°W., in "Pete's Hole". 175 ft. below the ¼ sec. cor. Desc. gradually
80.00	The cor. of Ts. 17 and 18 S., Rs. 4 and 5 E.
	Land, rolling and rough mountainous, draining NE.
	Soil, a rocky and stony loam, mixed with decayed vegetation. on a hard rock sub-soil. 3rd. rate.
	Timber, 3 chs. of heavy sprucetimber, and 27 chs. of aspen thicket on the east half.
	Undergrowth, chaparral and service berry.
	Mountainous or heavily timbered land, 80 chains.

August 27. 1913.

Howard M. Keeler

U. S. Surveyor.

Boundaries of T.18 S.,R.4 E.

Latitudes, Departures and closing errors.

Line designated	Course	Dist. (Chs)	Latitudes North (chains)	Latitudes South (chains)	Departures East (chains)	Departures West (chains)
W.Bdy.	T.18 S.R.4 E. North	483.64	483.64	------	------	------
N.Bdy.	" S.89°58'E.	478.27	.36	.28	478.27	------
E.Bdy.	" South	483.64	------	483.64	------	------
S.bdy.	" West	478.82	------	------	------	478.82
Convergency			------	------	.59	------
Totals			483.64	483.92	478.86	478.82
				483.64	478.82	
Error in latitude				.28		
Error in departure					.04	

Note:- For general description, see Book "C" of this survey.

August 27, 1913.

Howard W. Miller
U. S. Surveyor.

Blank

Page

BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 17 S, Range 4 E

6	5	4	3	2	1	73
7	8	9	10	11	12	71
18	17	16	15	14	13	70
19	20	21	22	23	24	69
30	29	28	27	26	25	68
31	32	33	34	35	36	67

6—4317

East Boundary of T. 17 S., R. 4 E.

chains.

Survey commenced September 3 , 1913 and executed with a Young and sons light mountain transit No. 8584 , with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other and reading to single minutes of arc , which is also the least count of the verniers of the lat. and decl. arcs. I examine the adjustments of the transit and correct the level and collimation errors ; then , to test the solar apparatus , by comparing its indications resulting from solar observations made during a. m. and p. m. hours with a meridian determined by observations made on Polaris , I proceed as follows :

At the cor. of Tp's. 17 and 18 S., R's. 4 and 5 E., described on page 43" of this book ; lat. 39° 17' 20" N., longitude 111° 27' 01"W., I set off 39° 17' N., on the lat. arc ; 7° 32'N., on the decl. arc ; and at 4 h. 30 m. p. m. l. m. t., determine with the solar a meridian and mark a point thereof , on a hub driven firmly in the ground , 5 chs. N. of the cor.

At 8 h. 42 m. p. m. l. m. t., I observe Polaris at eastern elongation in accordance with the Manual of Instructions , and mark a point in the line thus determined , on a peg driven firmly in the ground , 5 chs. N. of my station

September 3 ,1913

September 4 : At 7 h. 45 m. a. m. l. m. t., I lay off the azimuth of Polaris , 1° 29' to the west , and mark the meridian thus determined , by making a small x on the hub set September 3 , on which , the meridian falls 0.4 ins. east of the mark determined with the solar.

At 7 h. 59 m. a. m. l. m. t., I set off 39° 17'N., on the lat. arc ; 7° 17'N., on the decl. arc ; and determine a meridian with the solar. This meridian coincides with

chains

the Polaris meridian of September 3 .

The solar apparatus by p. m. observation defines a posistion for a meridian about 0'21" west of the Polaris meridian, and by a. m. observation coincides with the Polaris meridian ; therefore , I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8 h. 15 m. a. m., is N.17° 30'W., the angle thus determine gives the magnetic decl. 17° 30' E.

From the tp. cor. already described

I run

North , bet. secs. 31 and 36

Over rolling mountainous land draining NE., through scattering forest of aspen , spruce , balsam fir and some pine and undergrowth of service brush and chaparral.

Gradually descend across Little Pete's Hole.

21.25 Spring branch , 5 lks. wide , 5 to 10 ins. deep , good water , course N.60°E.

25.00 Branch of Cottonwood Creek , 20 lks. wide , 5 to 10 ins. deep , good water , course E.

Gradually ascend.

28.75 Base of ridge and leave Little Pete's Hole , bears NW. and SE.

Thence up steep SW. slope , through exceptionally dense undergrowth of service brush.

40.00 On steep SW. slope , 250 ft. above creek.

Set an iron post , 3 ft. long , 1 in. in dia., 12 ins. in the ground , and 12 ins. in a mound of stone and earth , 4 ft. base , 1 ft. high , for ¼ sec. cor., with brass cap marked

S 36 | S 31
¼ |

1913

East Boundary of T. 17 S., R. 4 E.

chains

from which

An aspen , 4 ins. diam., bears S. 47½°E., 26 lks. dist., marked ¼ S 31 B T

A spruce , 25 ins. diam., bears S. 49¼°W., 60 lks. dist., marked ¼ S 36 B T

Note:

On account of natural obstacles I am unable to set post more than 12 ins. in the ground.

45.00 Ascend abruptly through dense spruce, bearing E. and W.

49.00 Top of S. side of flat ridge , 380 ft. above creek , bears NW. and SE.

Leave dense timber and undergrowth , thence over rolling mountain top , gradually descending.

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 with brass cap marked

T 17 S
R 4 E | R 5 E
S 25 | S 30

S 36 | S 31

1913

from which

A spruce , 6 ins. diam bears S. 50°W., 172 lks. dist., marked T 17 S R 4 E S 36 B T

A spruce , 8 ins. diam., bears N. 17½°W., 333 lks. dist., marked T 17 S R 4 E S 25 B T

No trees within limits in secs. 30 and 31.

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

Land mountainous , with a general E. exposure.

S. 28.75 chs. and N. 31.00 chs., rolling mountainous land covered with scattering aspen , spruce , balsam fir and some pine timber and undergrowth of chaparral and service brush. Soil , decayed vegetation , gravelly and black loam mixed with some rocks , on a hard , moist , black loam and gravelly sub-soil , 2 nd. rate.

East Boundary of T. 17 S., R. 4 E.

chains

Remainder of mile , rough mountainous SW. slope of ridge covered with dense undergrowth of service brush and some spruce timber. Soil , gravelly and rocky , mixed with some rich black loam , on a hard gravel and loam sub-soil ; 3 rd. rate.

Good grass for grazing purposes.

Spruce and fir timber good for commercial purposes.

Land mountainous , heavily timbered or covered with dense undergrowth 80.00 chs.

North , bet. secs. 25 and 30

Over mountainous land with an east exposure.

Gradually descend over open rolling mountain top.

3.50 Leave rolling mountain top , bears E. and W. Enter heavy forest of spruce and fir.

Descend towards Little Cottonwood canyon.

16.60 Leave spruce and balsam fir timber , enter dead and fallen timber , bears E. and W.

Descend abruptly into canyon.

27.95 Leave dead timber , enter spruce and balsam fir , bears E. and W.

33.50 Old wood road , bears E. and W.

Enter dense aspen thicket, bears E. and W.

37.00 Spring branch , 5 lks. wide , 2 ins. deep , good water , in gulch 30 ft. deep , course NE.

Leave aspen thicket , bears NE. and SW.

40.00 800 ft. below sec. cor.

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

S 25 | S 30
¼

1913

chains	
	from which
	A spruce, 10 ins. diam., bears S. 64½°E., 71 lks. dist., marked ¼ S 30 B T.
	A spruce, 10 ins. diam., bears N. 35 ¼°W., 129 lks. dist., marked ¼ S 25 B T
	Continue to descend
41.30	Bottom of Little Cottonwood canyon and creek, 10 lks. wide, 4 to 6 ins. deep, 50 ft. below ¼ sec. cor., course E.
	Enter dense scrub aspen timber, and dense chaparral undergrowth.
	Ascend abruptly over S. face of high mountain ridge.
43.00	September 4: At this station I set off 7° 13' N. on the decl. arc; and at 11h. 59m. a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 39° 19'
43.50	The United States Forest service telephone line, bears N. 80°W. and S. 80°E.
47.50	Enter dense choke cherry undergrowth, bears E. and W.
56.04	Top of S. side of mountain ridge, 560 ft. above creek, bears N. 80°W. and S. 80° E.
	Thence over top of ridge through heavey timber.
66.35	Top of N. side of ridge, bears N. 70°W. and S. 70°E.
	Leave heavey timber. Thence descend over rocky NE. slope of mountain, through scattering timber and dense undergrowth of service brush and willows.
69.00	Spring branch, 2 lks. wide, 1 in. deep, good water, course N. 60° E.,
80.00	350 ft. below top of ridge
	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 with brass cap marked

T 17 S

R 4 E | R 5 E

S 24 | S 19

S 25 | S 30

1913

chains	
	raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	No trees within limts suitable for bearing trees.
	Land rough mountainous with a general east exposure. and with steep N., NE. and S. slopes of ridges into canyons.
	Soil, decayed vegetation, rocky and some black loam onrocky and gravelly sub-soil; 3 rd rate.
	Timber, spruce, balsam fir, aspen and some pine.
	Spruce and fir timber of good commercial value.
	Undergrowth, chaparral, service brush, choke cherry and willow.
	Good grass for grazing on mile.
	Land mountainous; heavily timbered and covered with dense undergrowth 80.00 chs.
	September 4, 1913.

September 5: At 7h. 59m. a.m. l.m.t., I set off 39° 19' N., on the lat. arc; 6° 55' N., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 24, 25 and 30.

Thence I run

North, bet. secs. 19 and 24

Over rough mountainous land draining SE., through scattering forest of spruce, balsam fir and aspen and undergrowth of chaparral and service brush.

Descend over NE. face of mountain towards Big Cottonwood Canyon.

18.80	Enter heavey forest of aspen and spruce. bears E. and W.
22.00	Spring branch, 4 lks. wide, 2 ins. deep, good water, course E.
	Leave timber, bears E. and W.
27.10	Enter heavey timber, bears E. and W.
29.10	Bottom of Big Cottonwood Canyon and creek, 20lks. wide, good water, 250 ft. below sec. cor, course SE.
30.00	Base of steep ascent, bears NW. and SE.

chains

Thence up steep SW. slope of mountain.

34.00 Enter large wash filled with boulders, course S.5°E.

40.00 175 ft. above creek on W. side of wash.

Set an iron post, 3 ft. long., 1 in. in dia., 24 ins. in a mound of stone and earth, 4 ft. base, 2 ft. high, for ¼ sec. cor., with brass cap marked

S 24 ¼ | S 19

1913

from which

An aspen, 11 ins. diam., bears N.66½°E., 51 lks. dist., marked ¼ S 19 B T

An aspen, 21 ins. diam., bears N.84½°W., 113 lks. dist., marked ¼ S 24 B T

Note: On account of natural obstacles I am unable to set post in the ground.

42.25 Spring branch in wash, 1 lk. wide, 1 in. deep, good water, course at bend from NE. to SE.

Enter exceptionally dense aspen thicket.

50.30 Leave dense timber, ascend abruptly over series of small ledges through scattering timber.

56.70 Top of steep ascent and edge of bench, 550 ft. above creek, bears NW. and SE.

Enter dense forest of spruce, aspen and fir, bears E. and W.

Gradually ascend across bench

65.00 Ascend abruptly over bluff

66.25 Top of flat top mountain, 150 ft. above bench, bears NW. and SE.

Leave timber and undergrowth, thence over rolling mountain top gradually ascending.

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 with brass cap marked

chains

T 17 S

R 4 E	R 5 E
S 13	S 18
S 24	S 19

1913

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

Land, rough mountainous and rolling.

S. 66.25 chs. rough mountainous land sloping and draining NE. on S. 29.10 chs. and S. on next 37.15 chs.

Soil, decayed vegetation and gravelly mixed with some black loam on hard, moist black loam and rocky sub-soil 3 rd. rate. Timber, aspen, spruce, balsm fir, and pine. Undergrowth, chaparral, service brush, and willow.

Timber good for commercial purposes.

N. 13.75 chs. open rolling mountain top with SE. exposure No timber or undergrowth. Soil, gravelly, black loam, and stony on rich, moist , black loam and gravel sub-soil; 2 nd. rate.

Good grass for grazing on mile.

Land mountainous, heavily timbered and covered with dense undergrowth 66.25 chs.

North, bet. secs. 13 and 18.

Over open rolling mountain top, draining SE.

Gradually descend.

5.00 Hollow, 15 ft. below sec. cor., drains SE.

Gradually ascend.

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

S 13 ¼	S 18

1913

East Boundary of T. 17 S., R. 4 E.

chains

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

55.00 Wash, 10 lks. wide, 4 ft. deep, drains SE.

80.00 Set an iron post, 3 ft. long, 3 ins. in dia., 12 ins. in the ground, and 12 ins. in a mound of stone and earth, 4 ft. base, 1 ft. high for cor. of secs. 7, 12, 13 and 18, with brass cap marked

T 17 S

R 4 E | R 5 E

S 12 | S 7

S 13 | S 18

1913

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

Note: On account of natural obstacles I am unable to set post more than 12 ins. in the ground.

Land, rolling mountaintop with a general SE. exposure.

Soil, gravelly and black loam with some stony outcroppings on hard, moist black loam and rocky sub-soil; 2 nd. rate.

Good grass for grazing purposes.

No timber.

No undergrowth.

North, bet. secs. 7 and 12.

Gradually ascend over rolling mountain top draining SE. through scattering undergrowth of salt sage.

15.00 Edge of mountain top, bears N. 35°W. and S. 35° E.

September 5: At this station I set off 6° 50' N., on the decl. arc; and at 11h. 59m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 39° 21' which is the proper lat.

Enter rough rocky mountainous land.

Descend abruptly.

East Boundary of T. 17 S., R. 4 E.

chains	
40.00	Bottom of hollow and wash, 30 lks. wide 3 ft. deep, 75 ft. below top of descent, drains SE. Point for ¼ sec. cor. falls in wash. No cor. set.
41.00	Set an iron post, 3 ft. long, 1 in. in dia. 24 ins. in a mound of stone and earth, 4 ft. base, 2 ft. high for witness cor. to the ¼ sec. cor., with brass cap marked

T 17 S
R 4 E | R 5 E
S 12 | S 7

WC ¼

1913

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

Note: On account of natural obstacles I am unable to set post in the ground.

47.20	Spring branch, 3 lks. wide, 2 ins. deep, good water course SE.

Thence over rolling mountainous land, gradually ascending over the S. face of Horse Shoe mountain.

80.00	On top of low ridge, bears NE. and SW.

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a mound of stone and earth, 4 ft. base, 2 ft. high, for cor. of secs. 1, 6, 7 and 12, with brass cap marked

T 17 S
R 4 E | R 5 E
S 1 | S 6

S 12 | S 7

1913

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

Note: On account of natural obstacles I am unable to set post in the ground.

Land, rolling and mountainous with a general SE. exposure.

East Boundary of T. 17 S., R. 4 E

chains	
	S. 15.00 chs. rolling mountain top with a general SE. exposure. Soil , gravelly and stony mixed with a rich loam , on a hard , moist black loam and rocky sub-soil , 3 rd. rate.
	No timber . No undergrowth.
	N. 65.00 chs. rough and broken mountainous land covered with a short undergrowth of salt sage.
	Soil , rocky and gravelly on a rocky sub-soil ; 4 th. rate. Only enough soil to allow a scant growth of bunch grass in the crevices of the rocks.
	Good grazing on this mile.
	No timber.
	Mountainous land 65.00 chs.

	North , bet. secs. 1 and 6
	Over rolling mountainous land through short undergrowth of salt sage.
	Gradually ascend over S. face of Horse Shoe Mountain.
8.80	Spur , 50 ft. above sec. cor., projects N. 30°W.
	Descend.
13.80	Wash in bottom of hollow , 40 ft. deep , 10 lks. wide , drains SE.
	Gradually ascend.
22.80	Horse Shoe Ditch , 10 lks. wide , bears E. and W. Flows W
	Thence over series of small washes.
36.80	Spring branch , 2 lks. wide , 1 in. deep , good water , in wash , 2 chs. wide , course SW.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins in a mound of stone and earth , 4 ft. base , 2 ft. high for $\frac{1}{4}$ sec. cor., with brass cap marked
	S $\frac{1}{4}$ 1 | S 6
	1913
	raise a mound of stone , 2 ft. base , 1½ ft. high , W.

East Boundary of T. 17 S., R. 4 E.

chains	
	of cor.
	Note :
	On account of natural obstacles I am unable to set post in the ground.
53.50	Wagon road , bears E. and W.
60.80	Top of Horse Shoe Mountain , 150 ft. above ¼ sec. cor., and 12,200 ft. above sea level , bears N. 60° E. and S. 60° W
	Descend over precipitous N. slope over ledges and boulders
63.30	Enter forest of spruce , pine , and balsam fir timber , bears NE. and SW.
80.00	Wash in gulch , 30 lks. wide , 600 ft. below top of mountain , drains NW. Base of steep descent.
	Set temp. cor. of Tp's. 16 and 17 S., R's. 4 and 5 E.
	The true cor. point for Tp's. 16 and 17 S., R's. 4 and 5 E. is afterwards set at 86.78 chs.
	Land broken and rough mountainous.
	S. 60.80 chs. broken mountainous land with a general S. exposure. Soil , stony and rocky mixed with some black loam on a rocky sub-soil ; 3 rd. rate.
	N. 25.98 chs. rough mountainous land on N. face of horse shoe mountain. Soil , rocky on rocky sub-soil ; 4 th. rate.
	Timber , spruce , pine and balsam fir on N. 33.48 chs.
	Undergrowth , salt sage.
	Some good grass for grazing on mile.
	Land mountainous , heavily timbered or covered with dense undergrowth 86.78 chs.

September 5 ,1913

Howard O. Miller

U. S. Surveyor.

NORTH BOUNDARY OF T. 17 S., R. 4 E.

Survey commenced September 15 .1913 and executed with a Young and Sons light mountain transit No. 8584.

I know that the instrument is in adjustment from recent tests made on Polaris

North Boundary Of T. 17 S., R. 4 E.

chains

Ibegin at the temp. cor. of Tp's. 16 and 17 S., R's. 4 and 5 E. heretofore described.

At 7 h. 55 m. a. m. l. m. t., I set off 39° 23' N., on the lat. arc; 3° 08' N., on the decl. arc; and determine a meridian with the solar at the above described temp. Tp. cor.

Thence I run

West, on a random line along the N. bdy. of the Tp. setting temporary ¼ sec. and sec. cors. at intervals of 40.00 chs.

80.00 September 15 : At this station I set off 3° 03' N. on the decl arc; and at 11 h. 55m. a.m. l. m. t., observe the sun on the meridian; the resulting lat. is 39° 23'

160.00 Cease work.

September 15, 1913.

October 2 : The sky is overcast and heavey fog delays work in a.m.

At 1 h. 50 m. p. m. l. m. t., I set off 39° 23' N., on the lat. arc; 3° 34' S., on the decl. arc: and determine a meridian with the solar at this station.

Thence I continue

West.

200.00 Cease work.

October 2, 1913.

October 3 : At 8 h. 49 m. a. m. l. m. t., I set off 39° 23' N., on the lat. arc; 3° 52' S., on the decl. arc; and determine a meridian with the solar at this station.

Thence I continue

West.

October 3: The sky is overcast at noon this day, observations for lat. are impossible.

280.00 Cease work.

October 3, 1913.

October 4: Continuous storm of rain, prevents field work in a.m.

At 1 h. 49m. p. m. l. m. t., I set off 39° 23' N., on the

chains	
	lat. arc; 4° 21' S., on the decl. arc; and determine a meridian with the solar at this station.
	Thence I continue
	West.
320.00	Cease work

October 4, 1913.

Howard W. Miller

U. S. Surveyor.

October 7: Heavy snow delays work in a.m.

At 1 h. 48m. p.m. l.m.t., I set off 39° 23' N., on the lat. arc; 5° 29' S., on the decl. arc; and determine a meridian with the solar at this station.

Thence I continue

West.

360.00	Cease work.

October 7, 1913

October 8: At 7 h. 48m. a.m. l.m.t., I set off 39° 23' N., on the lat. arc; 5° 46' S., on the decl. arc; and determine a meridian with the solar at this station.

Thence I continue

West

440.00	October 8: At this station I set off 5° 51' S., on the decl. arc; and at 11h. 48m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 39° 23'.
478.36	Intersect the W. bdy. of the Tp. 6.78 chs. S. of the cor. of Tp's. 16 and 17 S., R's. 3 and 4 E. heretofore described. The falling answers to a correction of greater than 21' of arc per mile counting from the NE. cor. of the Tp., therefore I abandon my random line and beginning at the cor. of Tp's. 16 and 17 S., R's. 3 and 4 E., I run
	East, bet. secs. 6 and 31
	Over rough mountainous land draining W., through dense forest of cedarand pinon and undergrowth of sage brush and oak.
	Descend along S. side of deep gulch.

North Boundary of T. 17 S., R. 4 E.

chains	
6.00	Gulch, 60 ft. below tp. cor., drains. N. 80°W.
	Ascend over W. slope through scattering timber and undergrowth.
28.00	Top of spur, 100 ft. above gulch, projects NW.
	Thence over land sloping nearly N.
38.36	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 31 ¼ S 6 1913 dig pits 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., raise a mound of earth, 3 ft. base, 1½ ft. high, N. of cor.
	No trees within limits.
46.50	Bottom of hollow, 75 ft. deep, drains NW.
	Ascend abruptly through dense oak and service brush.
56.15	Ascend more gradually.
64.40	Top of long spur, 100 ft. above hollow, projects NW.
	Descend abruptly over NE. slope.
78.36	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 5, 6, 31 and 32, with brass cap marked T 16 S R 4 E S 31 | S 32 S 6 | S 5 T 17 S 1913 raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rough mountainous with a general NW. exposure.

Soil, sandy clay, adobe and rocky, mixed with some black loam on hard moist clay and rock sub-soil ; 3 rd. rate.

Timber, scattering scrub cedar and pinon of no commercial value.

Undergrowth, oak, sevice and sage brush 2 to 8 ft. high

North Boundary of T. 17 S., R. 4 E.

chains

Good grass for grazing purposes.

Land mountainous, heavily timbered or covered with dense undergrowth 78.36 chs.

East, bet. secs. 5 and 32.

Over rough mountainous land with a general NW exposure.

Descend through dense oak, service, and sage brush.

2.90 Bottom of hollow 35 ft. below sec. cor., drains NW.

Ascend abruptly through exceptionally dense brush.

31.20 Top of steep ascent, 350 ft. above hollow., gradually ascend.

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

S 32
¼
S 5
1913

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

Continue gradual ascent through dense brush.

80.00 Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 4, 5, 32 and 33 with brass cap marked,

T 16 S R 4 E
S 32 | S 33
S 5 | S 4
T 17 S

1913

dig pits, 18 x 18 x 12 ins. in each sec., 3½ ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high, W. of cor.

Land, rough mountainous with a general NW. exposure.

Soil, sandy clay, decayed vegetation and rocky mixed with some rich black loam., on hard moist clay, gravel and rocky sub-soil; 3 rd. rate.

North Noundary of T. 17 S., R. 4 E.

chains	
	No. timber.
	Undergrowth , exceptionally dense oak brush, 4 to 10 ft. high; service, choke cherry maple and sage brush.
	Good grass for grazing purposes.
	Land, mountainous, heavily timbered or covered with dense undergrowth, 80.00 chs.
	East, bet. secs. 4 and 33.
	Over rough mountainous land facing and draining W., through dense undergrowth of oak, service, choke cherry and maple brush., some scattering aspen trees.
	Ascend over western face of mountain.
12.00	Enter dense aspen thicket, bears N. and S.
19.50	Leave aspen thicket, bears N. and S.
33.00	Top of steep ascent, 400 ft. above sec. cor., bears N. 20°E. and S. 20°W.
	Thence gradually ascend through exceptionally dense choke cherry brush and some scattering aspen timber.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S33 ¼ S S 4 1913
	dig pits, 18 x 18 x 12 ins., E. and W. of ppst, 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high, N. of cor.
58.90	Leave exceptionally dense choke cherry brush, enter heavier aspen timber, bears N. and S.
73.00	Top of high mountain ridge, 100 ft. above ¼ sec. cor, bears N. and S.
	Gradually descend over gentle east slope.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 3, 4, 33 and 34 with brass cap marked

chns

T 16 S R 4 E
S 33 | S 34
S 4 | S 3
T 17 S

1913

from which

An aspen, 12 ins. diam., bears N.11½°E., 49 lks. dist., marked T 16 S R 4 E S 34 B T

An aspen, 16 ins. diam., bears S.9¼°E., 86 lks. dist., marked T 17 S R 4 E S 3 B T

An aspen, 10 ins. diam., bears S.75½°W., 39 lks. dist., marked T 17 S R 4 E S 4 B T

An aspen, 10 ins. diam., bears N.31°W., 30 lks. dist., marked T 16 S R 4 E S 33 B T

Land rough mountainous facing and draining W. to San Pete Valley on W. 73.00chs. and NE. on E. 7 chs.

Soil, decayed vegetation, black loam and gravelly mixed with some rocks, on hard moist black loam and rocky sub-soil; 3 rd. rate.

Timber scattering aspen.

Undergrowth, high and dense choke cherry, oak, service, maple and some sage brush.

Good grass for grazing purposes.

Land mountainous, heavily timbered or covered with dense undergrowth 80.00 chs.

East, bet. secs. 3 and 34

Over rough mountainous land near top of divide between Canal Canyon and N. fork of Ephraim Canyon. Gradually descend over NE. slope.

4.50 Head of hollow, 20 ft. below sec. cor., drains NE.

4.80 Enter dense aspen thicket and undergrowth of choke cherry and service brush.

Ascend.

9.70 Top of ridge, 30 ft. above hollow, bears NE. and SW.

chains

Leave aspen thicket, bears NE. and SW.

Descend over SE. slope.

22.00 Horse Shoe water ditch, 10 lks. wide, course S.35°W.

28.00 Hollow, 80 ft. below ridge, drains SW.

Gradually ascend over land sloping nearly west.

Enter scattering aspen timber, bears N. and S.

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

S 34
¼
S 3
1913

from which

An aspen 4 ins. diam., bears S.12½°W., 30 lks. dist., marked ¼ S 3 B T

An aspen, 6 ins. diam., bears N.72°W., 90 lks., dist., marked ¼ S 34 B T

57.00 Horse Shoe Ditch, 10 links wide, course N.45°W.

Leave aspen timber, enter dense choke cherry and service brush.

Ascend abruptly over W. face of ridge.

76.50 Top of ridge, 150 ft. above ¼ sec. cor. and 200 ft. above hollow, bears N. and S.

Descend abruptly over E. slope of ridge. 80 ft. to

80.00 Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 2, 3, 34 and 35 with brass cap marked

T 16 S R 4 E
S 34 | S 35
S 3 | S 2
T 17 S
1913

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

Land mountainous, draining N. and SW. from divide into Canal and Ephraim canyons.

Soil, gravelly, rocky, decayed vegetation and some

chains

black loam on hard, moist loam and rocky sub-soil; 3 rd. rate.

Timber, scattering groves of aspen.

Some good grass for grazing purposes.

Undergrowth, choke cherry and service brush.

Land mountainous, heavily timbered or covered with dense undergrowth 80.00 chs.

East, bet. secs. 2 and 35.

Over rough mountainous land draining N. into Canal Canyon, through scattering undergrowth of sage and service brush.

Descend over eastern slope of spur.

3.00 Base of steep descent, bears N. and S., gradually descend.

10.00 Enter dense forest of aspen and spruce, bears N. and S.

23.00 Hollow, 100 ft. below top of ridge, drains N. 30° W.

Ascend abruptly onto Horse Shoe Ridge.

37.50 Top of ridge spur from Horse Shoe Mountain, 100 ft. above hollow, bears N. and S.

Descend through dense timber

40.00 [illegible] ft. below spur.

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

S 35
¼

S 2

1913

from which

A spruce, 8 ins. diam., bears N. 15½° E., 115 lks. dist., marked ¼ S 35 B T

A pine, 15 ins. diam., bears S. 21° E., 11 lks. dist., marked ¼ S 2 B T

41.[illegible] Base of steep descent, [illegible] ft. below ¼ sec. cor., bears [illegible] W. and S.

North boundary of T. 17 S., R. 4 E.

chains	
	Enter dense undergrowth of chaparral , choke cherry and service brush.
	Thence over broken mountainous land facing N. at base of Horse Shoe Ridge.
50.20	Leave dense timber , thence through scattering timber.
65.20	Wash in bottom of hollow , 10 lks. wide , 3 ft. deep , 100 ft. below ¼ sec. cor., course NW.
	Ascend over NW. slope 75 ft. to
80.00	Set an iron post , 3 ft. long , 3 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth 4 ft. base 1 ft. high , for cor. of secs. 1 , 2 , 35 and 36 , with brass cap marked

T 16 S R 4 E
S 35 | S 36
S 2 | S 1
T 17 S

1913

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

Note:
On account of natural obstacles I am unable to set post more than 12 ins. in the ground.

Land rough mountainous land lying on the N. side of Horse Shoe Mountain which has an elevation of about 12,000 ft. above sea.

Soil , rocky and decayed vegetation , very shallow , on rocky sub-soil ; 4 th. rate.

Timber , some good spruce , balsam fir , aspen and pine.

Undergrowth , chaparral , choke cherry and service brush

Some good grass for grazing purposes.

Land mountainous , heavily timbered or covered with dense undergrowth 80.00 chs.

East , bet. secs. 1 and 36

North Boundary of T. 17 S., R. 4 E.

chains	
	Over rough mountainous land on N. side of Horse Shoe Ridge, through dense undergrowth of wild goose berry, chaparral, service and some sage brush.
	Ascend abruptly over NW. slope of high ridge.
6.00	Enter forest of spruce and balsam fir, bears N. and S.
12.10,	Leave timber and dense undergrowth, bears N. and S.
	Ascend abruptly through scattering short undergrowth.
26.60	Top of high point on Horse Shoe Mountain, 670 ft. above sec. cor., bears N. and S.
	Descend gradually over land facing S.
28.80	Top of steep descent, leave ridge, bears NW. and SE.
	Descend abruptly over ledges and boulders.
36.00	Gulch, near head, 460 ft. below top, course NE.
	Thence over rough broken ground facing N.
40.00	Point for ¼ sec. cor. falls on exceptionally steep N. slope, where cor. cannot be set.
44.00	Thence over land facing N. with gradual slope.
44.80	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for witness cor. to the ¼ sec. cor., with brass cap marked
	T 16 S R 4 E S 36 WC ¼ —— S 1 T 17 S R 4 E 1913
	raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Continue to descend.
61.00	Spring branch, 800 ft. below top of mountain, 2 lks. wide, 1 in. deep, good water, course N.
	Gradually ascend.
62.00	Spring branch, 2 lks. wide, 1 in. deep, good water, course NW.
71.80	Wash, 15 lks. wide, 8 ft. deep, course NW.
	Base of steep ascent and enter spruce and pine timber, bears NW. and SE. Ascend.

Chains.

80.00 | 75 ft.above wash,

Set an iron post, 3 ft.long, 3 ins.in dia., 24 ins.in the ground, for cor.of Tps.16 and 17 S., Rs.4 and 5 E., with brass cap marked

T 16 S
R 4 E | R 5 E
S 36 | S 31
S 1 | S 6
R 4 E | R 5 E
T 17 S
1913

from which

A spruce, 14 ins.diam., bears N.24½°E.30 lks. dist., marked T 16 S R 5 E S 31 B T

A spruce, 24 ins.diam., bears S.57½°E.26 lks. dist., marked T 17 S R 5 E S 6 B T

A spruce, 40 ins.diam., bears S.72½°W.40 lks. dist., marked T 17 S R 4 E S 1 B T

A spruce, 10 ins.diam., bears N.47½°W.37 lks. dist., marked T 16 S R 4 E S 36 B T

Note: I destroy all traces of the temp.point ~~xxx~~ for cor.of Tps.16 and 17 S., Rs.4 and 5 E. set by me 6.78 chs.S.of this point.

Land, rough, mountainous with steep N., NE., and NW. slopes of ridges from Horse Shoe Mountain.

Soil, rocky and decayed vegetation , very shallow, on hard, moist, decayed vegetation and black loam sub-soil, with some outcroppings of large limestone boulders and bed rock; 3rd rate.

Timber, some good spruce and balsam fir.

Undergrowth, wild gooseberry, choke cherry, service, and some sage brush, very dense in places.

Some good grass for grazing purposes.

Land, mountainous, heavily timbered or covered with dense undergrowth 80.00 chs.

October 8, 1913.

U.S.Transitman.

BOUNDARIES OF T. 17 S., R. 4 E.

Latitudes, Departures and Closing Errors.

Lines Designated	True Bearing	Dist. Chs.	Latitudes. N. Chs.	Latitudes. S. Chs.	Departures. E. Chs.	Departures. W. Chs.
West Boundary	N.0°10'W.	162.90	162.90			.47
	N.1°50'E.	124.38	124.32		3.98	
	N.1°18'W.	199.20	199.15			4.52
North "	East	478.36			478.36	
East "	South	486.78		486.78		
South "	N.89°58'W.	478.27	.28			478.27
Convergency					.59	
Totals			486.65	486.78	482.93	483.26
Error in lat. and dep.				486.65		482.93
				.13		.33

BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 16 S., Range 4 E

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

6—4817

East Boundary of T. 16 S., R. 4 E.

Chains

Survey commenced October 31, 1913, and executed with a Young and Sons light mountain transit No. 8538. For description and test of instrument see book "B" of this survey.

The solar attachment of this transit is damaged beyond repair in the field, and the sky being overcast the night of October 30, so that observations on Polaris were impossible, I am therefore compelled to run a portion of this bdy. by direct observations.

I begin at the cor. of Tps. 16 and 17 S., Rs. 4 and 5 E., described in the notes of the N. bdy. of T. 17 S., R. 4 E., lat. 39°22'34"N., longitude 111°27'01"W.

At 1h 44m p.m., l.m.t., I note a reference point and direct the telescope towards the sun as follows:

Telescope	Horizontal angle	Vertical angle	Position of the sun's image
Direct	44° 16'	31° 48'	+
Reversed	44° 26'	31° 40'	+

Apparent altitude = $\frac{31° 48' + 31° 40'}{2}$ = 31° 44' 00"

Less correction for refraction ..... 1' 32"

True altitude ..... 31° 42' 28"
Co-altitude ..... 58° 17' 32"

Latitude ..... 39° 22' 34"
Co-latitude ..... 50° 37' 26"

Co-declination = 14°08' + 90° = ... 104° 08'

S = ½ (58° 17' 32") + (50° 37' 26") + (104° 08')

S = 106° 31' 29"

$$\text{Cos. } \tfrac{1}{2} A = \sqrt{\frac{\sin. 106° 31' 29" \times \sin. 2° 23' 29"}{\sin. 58° 17' 32" \times \sin. 50° 37' 26"}}$$

9.981701
8.621922
Log. cos. ½ A = 0.070203 = 9.392828
0.111831
2/18.785657

½ A = 75° 41' 44" A = 151° 23' 28"

The true bearing of the sun is S.28° 36' 32" W.

The true bearing of the reference point is S. 15°45' 28" W.

I turn off 15° 45' + to the west from my reference

East Boundary of T. 16 S., R. 4 E.

Chains	
	point
	Thence I run
	North bet. secs. 31 and 36,
	Over rough mountainous land, through dense forest of spruce, balsam fir, pine and some aspen.
	Gradually descend over gentle west slope.
17.13	Top of steep descent, bears E. and W.
	Descend abruptly over steep N. slope into canyon.
28.10	Base of steep descent and creek, 5 lks. wide, 3 ins. deep, good water, 75 ft. below top of descent, course N.30°E.
	Thence gradually descend along west side of creek, through exceptionally dense timber.
38.50	Same creek, 5 lks. wide, course N.1°W.
40.00	Point for ¼ sec. cor. falls in creek. No cor. set.
42.00	On east side of creek,
	Set an iron post 3 ft. long, 1 in. in dia., 24 ins. in a mound of stone and earth, 4 ft. base, 2 ft. high, for witness cor. to the ¼ sec. cor., with brass cap marked
	T 16 S R 4 E | R 5 E S 36 | S 31 WC ¼ 1913
	raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Note: On account of natural obstacles I am unable to set post in the ground.
	No suitable trees within limits.
	October 31, 1913.
	November 1: By a back sight along my line carried from the south October 31,
	I continue
	North bet. secs. 31 and 36,
43.00	Same creek, course N.5°E.

East Boundary of T. 16 S., R. 4 E.

chains

Leave heavy timber.

65.00 Enter heavy timber , bears E. and SW.

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 , with brass cap marked

T 16 S
R 4 E | R 5 E
S 25 | S 30

S 36 | S 31

1913

from which

An aspen , 10 ins. diam., bears N. 24¼°E., 30 lks. dist., marked T 16 S R 5 E S 30 B T

A pine , 14 ins. diam., bears S. 14°E., 41 lks. dist., marked T 16 S R 5 E S 31 B T

A pine , 10 ins. diam., bears S. 42°W., 65 lks. dist., marked T 16 S R 4 E S 36 B T

An aspen , 10 ins. diam., bears N. 62¼°W., 98 lks. dist., marked T 16 S R 4 E S 25 B T

Land , rough and broken mountainous with a general N. exposure.

Soil , stony and rocky , mixed with some rich black loam , very shallow , on a moist sub-soil of some rich decayed vegetation and rocks ; 3 rd. rate.

Timber , spruce , balsam fir , aspen and pine of good commercial value.

Undergrowth , chaparral.

Some good grass for grazing purposes.

Land mountainous , heavily timbered and covered with dense undergrowth 80.00 chs.

North , bet. secs. 25 and 30

Over rough mountainous land through dense forest of spruce , balsam fir , pine and aspen and undergrowth

East Boundary of T. 16 S., R. 4 E.

chains	
	of chaparral.
	Gradually descend along west side of creek.
19.00	Leave heavy timber , bears E. and W.
24.26	Top of steep descent , bears NE. and W.
	Descend abruptly. 50 ft. to
26.80	Bottom of canyon and creek , 5 lks. wide , 4 to 6 ins. deep , good water , course NW.
	Ascend abruptly.
30.00	Spur , 60 ft. above creek , projects. W.
	Descend abruptly.
31.50	Branch of Canal Creek , 6 lks. wide , 4 to 6 ins. deep, 40 ft. below spur , course NW.
	Ascend abruptly through dense aspen timber.
40.00	100 ft. above creek.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S 25½ | S 30
	1913
	from which
	An aspen , 10 ins. diam., bears N. 89°50' E. , 23 lks. dist. marked ¼ S 30 B T
	An aspen , 8 ins. diam., bears S. 41½° W. , 21 lks. dist., marked ¼ S 25 B T
45.20	Top of steep ascent , 150 ft. abobe creek , bears NW. and SE.
	Thence over gentle west slope.
46.00	Wagon road , bears N. 15° W. and S. 15° E.
52.00	Base of steep ascent , bears NW. and SE.
	Leave heavy timber , ascend abruptly.
66.00	Top of high ridge , 150 ft. above ¼ sec. cor., bears NW. and SE.
	Note:
	November 1 : The sky is overcast at noon , direct observation for lat. is impossible.

East Boundary of T. 16 S., R. 4 E

chains	
	Enter heavy aspen and spruce timber.
	Descend abruptly over N. slope into canyon.
70.00	Leave heavy timber, enter scrub aspen timber
80.00	200 ft. below top of ridge,
	Set an iron post, 3 ft. long, 3 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth, 4 ft. base, 1 ft. high, for cor. of secs. 19, 24, 25 and 30, with brass cap marked

T 16 S
R 4 E | R 5 E
S 24 | S 19

S 25 | S 30

1913

from which

An aspen, 3 ins. diam., bears N. 63½° E., 16½ lks. dist. marked T 16 S R 5 E S 19 B T

An aspen, 4 ins. diam., bears S. 55½° E., 21 lks. dist., marked T 16 S R 5 E S 30 B T

An aspen, 5 ins. diam., bears S. 68¼° W., 48 lks. dist., marked T 16 S R 4 E S 25 B T

An aspen, 4 ins. diam., bears N. 22¾° W., 18 lks. dist., marked T 16 S R 4 E S 24 B T

Note:
On account of natural obstacles I am unable to set post more than 12 ins. in the ground.

Land, rough mountainous, with N. and SW. slopes and a general drainage to the NW.

Soil, gravelly and rocky, mixed with some decayed vegetation; on a hard moist sub-soil of rich decayed vegetation and rocks; 3 rd. rate.

Timber, aspen, spruce, balsam fir and pine of good commercial value.

Undergrowth, chaparral.

Good grass for grazing purposes.

Land mountainous, heavily timbered and covered with dense undergrowth 80.00 chs.

East Boundary of T. 16 S., R. 4 E.

chains

North , bet. secs. 19 and 24

Over rough mountainous land through scattering aspen , spruce , balsam fir and pine timber.

Descend abruptly over N. slope into canyon.

11.00 Bottom of canyon and creek , 7 lks. wide , 3 to 6 ins. deep , good clear water , 175 ft. below sec. cor., course W.

Gradually ascend.

21.38 Base of steep ascent , bears NW. and SE.

Enter exceptionally dense undergrowth of service , buck, chaparral and sage brush.

Ascend abruptly over S. face of mountain.

40.00 550 ft. above canyon on steep S. face of mountain.

Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S $24\frac{1}{4}$ | S 19

1913

from which

A spruce , 14 ins. diam., bears S. $41\frac{1}{4}°$E., 36 lks. dist., marked $\frac{1}{4}$ S 19 B T

An aspen , 5 ins. diam., bears S. $22\frac{1}{2}°$W., 38 lks. dist., marked $\frac{1}{4}$ S 24 B T

November 1 ,1913

Survey completed with a Young and sons light mountain transit No. 8589 , with solar attachment. The horizontal limb is provided with two double verniers placed opposite to each other and reading to single minutes of arc , which is also the least count of the verniers of the latitude and declination arcs.

I examine the adjustments of the transit and correct the level and collimations , then , to test the solar

chains.

apparatus by comparing it's indications resulting from solar observations made during a. m. and p. m. hours with a meridian established by observations made on Polaris , I proceed as follows :

November 4 : At my camp which is situated near the cor. of secs. 14 and 15 , in approximate latitude 39° 25' N., longitude 111° 28' 07" W., I set off 39° 25' N., on the lat. arc ; 15° 23' S., on the decl. arc ; and at 3 h. 44 m. p. m. l. m. t., determine with the solar a meridian , and mark a point thereof , by a nail driven in a hub set firmly in the ground , 5 chs. N. of the station.

At 6 h. 15 m. p. m. l. m. t., I place my transit over the above described station , set the verniers of the plates at zero , and direct the telescope to the nail set in the hub , 5 chs. N.

At 6 h. 25 m. p. m. l. m. t., I unclamp the vernier plate , observe Polaris in accordance with the Manual of instructions , and mark the direction thus determined by a nail driven in a hub set firmly in the ground , 5 chs. N. of the station. The readings of the horizontal limb at the time of observation are as follows :

Telescope direct	1° 20'
Telescope reversed	1° 19'
Mean	1° 19' 30"
U. C. Polaris November 4	10H. 34m.
Time of observation	6h 25m
Time arguement	4h. 09m.

Azimuth of Polaris at observation --------N. 1° 19' E.

The true bearing of the meridian determined with the solar is therefore N. 0°00'30"W.

November 4 , 1913

November 5 : At 8 h. 44 m. a. m. l. m. t., I set off 39° 25' N., on the lat. arc ; 15° 37' S., on the decl. arc; and determine a meridian with the solar., and

chains.

find that the Polaris meridian determined November 4, bears N. 1° 18'E.

The solar apparatus by p. m. and a. m. observations defines positions for meridians respectively about 30' W. and 1' E., of the meridian established by observations made on Polaris. I therefore conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 9 h. a. m. l.m.t., is N. 17° 00'W., the angle thus determined gives the magnetic decl. 17° 00'E.

From the ¼ sec. cor. bet. secs. 19 and 24

I run

North.

Continue steep ascent from canyon.

45.00 Spur, 100 ft. above ¼ sec. cor., projects SW.

Thence over land facing almost W.

46.70 Enter aspen grove, bears E. and SW.

53.00 Hollow, 35 ft. below spur, course SW.

Leave aspen grove, thence through scattering timber.

Ascend abruptly.

65.63 Top of spur, 100 ft. above hollow, projects SW.

November 5: At this station I set off 15° 40' E., on the decl. arc; and at 11 h. 44 m. a. m. l. m. t., observe the sun on the meridian; the resulting lat. is 39° 24' which is within 1' of the proper lat.

Thence over west slope of high mountain ridge.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 13, 18, 19 and 24 with brass cap marked

T. 16 S.

R4E | S13	R3E | S18
S24	S19

East Boundary of T. 16 S., R. 4 E.

chains

from which

An aspen , 5 ins. diam., bears N. 79°E., 35 lks dist., marked T 16 S R 5 E S 18 B T

An aspen , 4 ins. diam., bears S. 45½°E., 19 lks. dist., marked T 16 S R 5 E S 19 B T

An aspen , 5 ins. diam., bears S. 23½°W., 10 lks. dist., marked T 16 S R 4 E S 24 B T

An aspen , 5 ins. diam., bears N. 7½°W., 203 lks. dist., marked T 16 S R 4 E S 13 B T

Land , rough and broken mountainous with steep N. and S. slopes into canyon on S. 65.63 chs., and west slope of high mountain on N. 24.37 chs.

Soil , generally gravelly and stony , mixed with rich black loam and decayed vegetation on a hard , moist sub-soil of rich mountain soil and rocks ; 3 rd. rate.

Timber , aspen , spruce and scattering balsam fir. good for commercial purposes.

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

Some good grass for grazing.

Land mountainous , heavily timbered and covered with dense undergrowth 80.00 chs.

North , bet. secs. 13 and 18.

Over rough mountainous land , gradually descending along west slope of high mountain ridge , through scattering aspen and spruce timber and undergrowth of chaparral , service , buck and scrub maple brush.

18.50 Enter dense spruce , balsam fir, pine and aspen timber bears NW. and SE.

Descend abruptly over N. face of high mountain. into Oak Creek Canyon.

East Boundary of T.16 S., R.4 E.

chains

34.00 Leave dense spruce , balsam fir and pine timber, bears NW. and SE.

Continue descent through dense aspen timber.

40.00 200 ft. belowtop of descent.

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

S 13¼ | S 18

1913

from which

An aspen , 4 ins. diam., bears N.75° E.,23 lks. dist.; marked ¼ S 18 B T

An aspen , 5 ins. diam., bears N.27½°W.,11 lks. dist., marked ¼ S 13 B T

November 5 , 1913

November 20 : At 8 h. 46 m. a. m. l. m. t., I set off 39°26' N., on the lat. arc ; 19° 38' S., on the decl. arc ; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 13 and 18

Thence I run

North

51.60 Top of steep descent , bears E. and W.

Descend over precipitous N. slope into oak creek.

53.64 Oak creek in canyon , 10 lks. wide , 2 to 4 ins. deep , good clear water , 275 ft. below ¼ sec. cor., course NW.

Leave timber.

Ascend abruptly over steep SW. face of mountain through dense undergrowth of oak , service and buck brush.

80.00 Set an iron post , 3 ft. long , 3 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth 4 ft. base , 1 ft. high for cor. of secs. 7 , 12 , 13 and 18 , with brass cap marked

East Boundary of T.16 S., R.4 E

chains

T 16 S	
R 4 E	R 5 E
S 12	S 7
S 13	S 18

1913

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

Note :

On account of natural obstacles I am unable to set post more than 12 ins. in the ground.

Land rough and broken mountains with a westerly slope on S. 16.50 chs., and with steep N. and SW. slopes into oak creek canyon on N. 61.50 chs.

Soil , stony and rocky mixed with some rich decayed vegetation on a hard moist sub-soil of rich mountain soil and rocks., 3 rd. rate.

Timber , aspen , spruce , balsam fir and some pine on S. 63.64 chs.

Undergrowth , chaparral , service and some buck brush.

Good grass for grazing purposes.

Land mountainous , heavily timbered and covered with dense undergrowth , 80.00 chs.

November 20: At 11 a. m. heavey storm of rain and snow prevents field work for the rest of the day.

November 20 , 1913

November 21: Continuous snow storm prevents field work this day.

November 21 , 1913

November 22: At 8 h. 16 m. a. m. l. m. t., I set off 39° 26' N., on the lat. arc ; 20° 04' S., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 7 , 12 , 13 and 18.

Thence I run

East Boundary of T.16 S., R.4 E.

chains

North , bet. secs. 7 and 12

Over rough mountainous land on east side of Oak Creek Canyon , through dense undergrowth of oak , service berry and buck brush

Gradually ascend over SW. slope.

19.80 Spur , 50 ft. above sec. cor., projects NW.

Descend over NW. slope into hollow.

31.00 Hollow , 75 ft. below spur , course W.

Enter dense aspen timber , bears E. and W.

Gradually ascend.

38.60 Spur , 70 ft. above hollow , projects NW.

Descend

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

S 12 ¼ | S 7

1913

from which

A spruce , 5 ins. diam., bears N. 67½°E., 46 lks. dist., marked ¼ S 7 B T

An aspen , 8 ins. diam., bears N. 64½°W., 44 lks. dist., marked ¼ S 12 B T

Enter dense timber , bears E. and W.

52.90 Base of spur , 60 ft. below ¼ sec. cor., bears E. and W.

November 22 : At this station I set off 20° 07' S., on the decl. arc ; and at 11 h. 46 m. a. m. l. m. t., observe the sun on the meridian , the resulting lat. is 39° 26'.

Thence across bench.

69.00 Leave bench , bears E. and W.

Descend abruptly over N. slope into canyon.

73.00 Drop road , bears NW. and SE.

79.50 Bottom of canyon , 250 ft. below ¼ sec. cor., bears E. and W.

East Boundary of T. 16 S., R. 4 E.

chains	
80.00	North fork of oak creek , 6 lks. wide , 3 ins. deep , good clear water , course W.
	Point for the cor. of secs. 1 , 6 , 7 and 12 falls in creek , no cor. set.
	Land rough and broken mountainous , with a general W. exposure and with N. and S. slopes into hollows and creeks.
	Soil , gravelly , decayed vegetation and rocky , on a hard , moist sub-soil of rich mountain soil and rocks ; 3 rd. rate.
	Timber , aspen , spruce , balsam fir and some pine of good commercial value.
	Undergrowth , chaparral , oak , service berry , buck and some sage brush.
	Some good grass for grazing purposes.
	Land mountainous , heavily timbered and covered with dense undergrowth 80.00 chs.

North , bet. secs. 1 and 6

Over rough mountainous land .

Ascend from bottom of creek.

1.00 Top of N. bank of creek , bears E. and W.

Enter a few scattering aspen , and dense undergrowth of oak , service , mahogany , buck and chaparral.

Gradually ascend.

2.00 Old road , bears N. 80°W. , and S. 80°E.

2.05 Set an iron post , 3 ft. long , 3 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of earth and stone 4 ft. base , 1 ft. high , for witness cor. to the cor. of secs., 1 , 6 , 7 and 12 , with brass cap marked

T 16 S
R 4 E | R 5 E
S 1 | S 6
WC
S 12 | S 7
1913

East Boundary of T. 16 S., R. 4 E

chains	
	from which
	An aspen , 6 ins. diam., bears S. 42½°W., 29 lks. dist., marked W C T. 16 S R 4 E S 12 B T
	No trees within limits in secs. 1 , 6 and 7.
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	Note:
	On account of natural obstacles I am unable to set post more than 12 ins. in the ground.
	Base of steep ascent , bears E. and W.
	Ascend abruptly over S. face of ridge.
17.40	Base of ledge , bears E. and W.
18.60	Top of ledge , 40 ft. high , bears E. and W.
	Gradually ascend
22.89	Top of ridge , 250 ft. above creek , bears NE. and SW.
	Enter dense spruce thicket , bears E. and W.
	Descend abruptly.
27.00	Leave spruce thicket .
	Thence gradually descend through dense brush.
40.00	100 ft. below top of ridge, in dense oak brush.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked

S. 1 ¼ | S 6

1913

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

November 22 , 1913

November 24 : At 7 h. 47 m. a. m. l. m. t., I set off 39° 27' N., on the lat. arc ; 20° 28' S., on the decl. arc ; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 1 and 6

Thence I run

North

Continue in dense brush , crossing numerous small spurs

East Boundary of T. 16 S., R. 4 E.

chains	
	and gulches.
52.00	Hollow , 50 ft. deep , course W.
	Ascend through exceptionally dense oak brush.
74.00	Spur , 40 ft. above hollow , projects W.
	Gradually descend over N. slope.
87.43	Hollow , 40 ft. deep , course W.
	Ascend
92.00	Spur , 30 ft. high . projects W.
92.10	Intersect 3 rd. Standard Parallel South 4.12 chs. S. 89° 20' W., of the standard cor. of Tp. 15 S., R'S. 4 and 5 E., heretofore described.
	At intersection , set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for closing cor. of T.16 S.,R's. 4 and 5 E., with brass cap marked

T 15 S
R 4 E | R 5 E
S 36 | S 31
CC
S 1 | S 6
R 4 E | R 5 E
T 16 S

1913

from which

An oak , 5 ins. diam., bears S. 57°E.,34 lks. dist., marked CC T16 S R 5 E S 6 B T

An oak , 4 ins. diam., bears S. 71°W.,84 lks. dist., marked CC T 16 S R 4 E S 1 B T

Land , rough mountainous with a general W. exposure and with N. and S. slopes of ridges.

Soil , generally gravelly and rocky mixed with some rich mountain soil , on a hard , moist sub-soil of decayed vegetation and rocks ; 3 rd. rate.

Timber , scattering patches of aspen , spruce , balsam fir and pine.

Undergrowth., dense oak , service berry , buck , sage and chaparral.

East Boundary of T. 16 S., R. 4 E.

chains

Some good grazing.

Land , mountainous , heavily timbered or covered with dense undergrowth 92.10 chs.

November 24 : At this closing cor. I set off 20° 32'. S., on the decl. arc ; and at 11 h. 47 m. a. m. l. m. t. , observe the sun on the meridian. , the resulting lat. is 39° 28'

WEST BOUNDARY OF T. 16 S., R. 4 E.

Survey commenced November 15 ,1913 and executed with Young and sons transit No. 8589. For full description of instrument see notes of E. bdy. of this tp.

I know the instrument to be in perfect adjustment by recent tests made on Polaris.

I commence at the cor. of T. 17 S., R's. 3 and 4 E. heretofore described ., in approximate lat. 39° 23' N., longitude 111° 34' W..

At 7 h. 45 m. a. m. l. m. t., I set off 39° 23' N., on the lat. arc ; 18° 22' S., on the decl. arc ; and determine a meridian with the solar.

Thence I run

North , on a random line bet. secs. 31 and 36

40.00 Set temp. ¼ sec. cor.

81.00. Fall 1.17 chs. E. of the cor. of secs. 25 , 30 , 31 and 36 , which is a sandstone , 17 x 10 x 4 ins. above ground , firmly set , and marked and witnessed as described by the Surveyor General.

I destroy all traces of the old sec. cor. and re-establish it at the same point as follows:

Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for re-established cor. of secs. 25 and 36 (knowing that a closing cor. will be nescessary

West Boundary of T. 16 S., R. 4 E.

chains

for secs. 30 and 31, T. 16 S., R. 4 E) T. 16 S., R. 3 E., with brass cap marked

T 16 S
R 3 E | S 25
S 36 | R 4 E
1913

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

As my falling is out of limits, I abandon my random line and beginning at the above described cor.

I run

South, on true line bet. secs. 31 and 36

Over rolling mountainous land draining W., through scattering forest of scrub cedar and pinon and under-growth chaparral and sage brush.

Ascend and descend across series of low spurs and hollows.

20.00 Spur, 50 ft. high, projects W.

22.22 Wood road, bears N. 20°E. and S. 20°W.

Descend.

25.00 Hollow, 40 ft. deep, course W.

Ascend

30.50 Spur, 40 ft. above hollow, projects W.

Descend.

33.00 Pidgeon creek in hollow, 3 lks. wide, 3 ins. deep, good water, course W.

Gradually ascend

36.00 Wood road, bears E. and W.

Ascend abruptly.

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

S 36¼ | S 31
1913

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

West Boundary of T. 16 S., R. 4 E.

chains

cor.

Cor. falls on N. edge of spur , 60 ft. above creek , projecting W.

53.68 Descend over S. slope of spur into hollow.

55.00 Hollow , 45 ft. deep , course W.

Ascend abruptly.

71.06 Top of ridge , 75 ft. above hollow , bears E. and W.

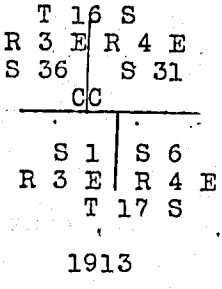
Descend abruptly.

77.00 Hollow , 80 ft. deep , course W.

Ascend abruptly 50 ft. to

81.00 Intersect E. and W. line , 1.17 chs., S. 89° 03' W., of the cor. of T. 17 S., R's. 3 and 4 E., heretofore described.

At intersection , set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for closing cor. of T. 16 S., R's. 3 and 4 E., with brass cap marked



1913

from which

A pinon , 5 ins. diam., bears N. 14½°E., 33 lks. dist., marked CC T 16 S R 4 E S 31 B T

A pinon , 8 ins. diam., bears N. 12¼°W., 47 lks. dist., marked CC T 16 S R 3 E S 36 B T

Land rolling and broken mountainous , with a general west exposure.

Soil , gravelly , stony and clay mixed with some gypsum on a hard , stony and rocky sub-soil ; 3 rd. rate.

Timber , scattering scrub cedar and pinon.

Undergrowth , sage , chaparral , some service berry and oak brush.

Some grass for grazing purposes.

West Boundary of T.16 S., R.4 E.

Land, mountainous, heavily timbered, or covered with dense undergrowth 81.00 chs.

Nov.15, 1913. U.S.Surveyor.

Volume
#
R0435

Boundaries of T.16 S., R.4 E.

Latitudes, Departures, and Closing Errors.

Lines Designated	True Bearing	Dist. chs.	Latitudes N. chs.	Latitudes S. chs.	Departures E. chs.	Departures W. chs.
South Boundary	N.89°03'E.	1.17	.02	.....	1.17	.....
	East	478.36	.....	.....	478.36	.....
East Boundary	North	492.10	492.10	.....	.....	.....
Third St.Par.S.R.4 E.:						
E.½ sec.36	S.89°20'W.	36.55	.....	.43	.....	36.55
W.½ sec.36	S.89.19'W.	39.92	.....	.48	.....	39.92
E.½ sec.35	S.89°18'W.	40.72	.....	.50	.....	40.72
W.½ sec.35	S.88°57'W.	40.72	.....	.75	.....	40.71
E.½ sec.34	S.89°07'W.	41.02	.....	.63	.....	41.02
W.½ sec.34	S.89°08'W.	40.95	.....	.62	.....	40.95
E.½ sec.33	S.89°08'W.	40.57	.....	.62	.....	40.57
W.½ sec.33	S.89°09'W.	41.13	.....	.61	.....	41.13
E.½ sec.32	S.89°07'W.	40.90	.....	.63	.....	40.90
W.½ sec.32	S.89°13'W.	40.48	.....	.55	.....	40.48
Sec.31	S 89°13'W.	80.96	.....	1.10	.....	80.96
West Boundary:						
N.½ sec.6	S. 0°40'E.	40.21	.....	40.21	.47	.....
S.½ sec.6	S. 0°26'E.	40.06	.....	40.06	.30	.....
N.½ sec.7	S. 0°06'E.	40.68	.....	40.68	.07	.....
S.½ sec.7	S. 1°11'E.	40.13	.....	40.12	.83	.....
N.½ sec.18	S. 0°45'E.	40.59	.....	40.59	.53	.....
S.½ sec.18	S. 0°46'E.	40.52	.....	40.52	.54	.....
Sec.19	S. 0°46'E.	81.04	.....	81.04	1.08	.....
N.½ sec.30	S. 0°26'E.	40.75	.....	40.75	.31	.....
S.½ sec.30	S. 0°30'E.	39.50	.....	39.50	.34	.....
Sec.31	South	81.00	.....	81.00	.....	.....
Convergency						.59
Totals			492.12	491.39	484.00	484.50
Errors in lat.and dep.			491.39			484.00
			.73			.50

U.S.Transitman.

U.S.Surveyor.

East Boundary of T.15 S., R.1 E.

chains

Survey commenced May 27 , 1914 and executed with a Young and Sons light mountain transit No. 8517 , with solar attachment. The horizontal limb is provided with two double verniers , placed opposite to each other and reading to single minutes of arc , which is also the least count of the verniers of the latitude and declination arcs.

The instrument was approved for use in this survey by Mr. G.D.D.Kirkpatrick , Ass't. Supervisor of Surveys.

I examine the adjustments of the instrument and find no errors. On account of delays in moving camp , I arrived at my camp in sec. 25 , T.15 S.,R.1 E., too late on the night of May 26 to make observations on Polaris , and I therefore commence this survey without doing so , but will test my instrument on a Polaris meridian at my earliest opportunity , the record of which follows. I know that the instrument is in good adjustment , having tested it 3 days previous on a meridian established by observations made on Polaris.

May 27: At my camp which is situated near the ¼ sec. cor. on the E. bdy. sec. 25 , T.15 S., R.1 E., in approximate latitude 39° 28' N., long. 111° 47' W.; I set off 39° 28' N., on the lat. arc ; 21° 18 ' N., on the decl. arc ; and at 4 h. 30 m. p. m. apparent time determine a meridian with the solar and mark a point thereof , by a nail driven in a stake , set firmly in the ground about 5 chs. N. of my station.

At 7 h. 56 m. p. m. l. m. t., I make an hour angle observation on Polaris in accordance with instructions in the Manual and note that an angle to the stake already set about 5 chs. is 0° 28' to the east

Time of obsn. May 27 , 1914---------- 7 h. 56m.p.m.

Time of U.C.Polaris May 27, reduced to long. 111° 47' W.---------- 9 h. 10m.a.m.

East boundary of T.15 S.,R.1 E.

chains

Time elapsed since U. C. Polaris (subtract) 10 h. 46m.
Hour angle of Polaris at obsn. 10 h. 46m.
Azimuth of Polaris at obsn.------N.0° 28'W,

May 27 , 1914.

May 28 : At 7 h. a. m. apparent time I set off 39° 39' on the lat. arc ; 21° 24' N., on the decl. arc ; and determine a meridian with the solar , and find that the nail set in the stake about 5 chs. N. bears N.0° 01'W.

The solar apparatus by p. m. observation agrees with the meridian determined by observations made on Polaris and by a. m. observations reads 1' to the right , I therefore conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 7 h. 15 m. a. m. is N.16° 30' W., the angle thus determined gives the magnetic decl. 16° 30'E.

Steel tapes , 5 chs, long , were used in all the field work ; together with a clinometer for determining slope angles ; and the reduced horizontal distances only appear in the official field notes. The tape was tested frequently , comparison being made with a standard tape 1 chain long , kept and used for that purpose only.

In the declination arc settings , .80 of the tabulated refraction , for computing declinations , is used in the survey of the E. and N. boundaries of this Tp. due to the altitude of the country which is approximately 6500 ft.

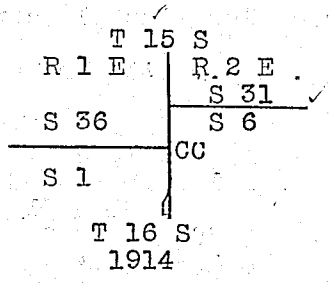
East boundary of T.15 S., R. 1 E.

chains

May 27: I begin at the standard closing cor. of Tps. 15 and 16 S., R.1 E., which is a white limestone , 8 x 10 x 8 ins. above ground , firmly set and marked and witnessed as described by the Surveyor General.

I re-establish this cor. as follows:

Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for standard closing cor. of Tps. 15 and 16 S., R. 1 E., with brass cap marked



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

The closing distance bet. the cor. of Tps. 15 and 16 S., R. 2 E. and the closing cor. of Tps. 15 and 16 S., R.1 E. being excessive , it is apparent that when the subdivisonal lines of T.15 S.,R.2 E. are closed upon the W. bdy. of the tp. the falling will exceed the limit and closing cors. will be nescessary. I therefore survey the range line through T.15 S., bet. Rs. 1 and 2 E. setting cors. for 2 secs. and quarters referring to R.1 E., as follows:

At 10 h. a. m. apparent time I set off 39° 28' on the lat. arc ; 21° 15 ' N., on the decl. arc ; and determine a meridian with the solar.

The cor. of Tps. 15 and 16 S., R.2 E., being plainly visible from this cor., I run for said cor.

N.0° 12' E., on the E. bdy. sec. 36.

Over rough mountainous land draining W., through spruce , pine balsam fir and red cedar timber and dense undergrowth of oak , buck , sage and choke cherry brush.

Descend over N. slope,

chains	
4.20	Ravine , 50 ft. below tp. cor., course SW.
	Ascend over S. and SE. slopes.
11.11	66 ft. above ravine
	Intersect the cor. of Tps. 15 and 16 S., R. 2 E., which is a sandstone , 6 x 11 x 9 ins. above ground , firmly set , and marked as described by the Surveyor Gemeral.
	No accessories to cor. I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for cor. of Tps. 15 and 16 S., R. 2 E., with brass cap marked

T 15 S
R 1 E | R 2 E
S 31
S 36 | S 6
S 1
T 16 S
1914

from which

A spruce , 18 ins. diam., bears N.75½°E.,311 lks. dist., marked T 15 S R 2 E S 31 B T

A spruce , 10 ins. diam., bears S.74°E.,240 lks. dist., marked T 16 S R 2 E S 6 B T

	Thence
	North , with continuous chaining.
	Continue ascent
20.00	Leave timber , bears E. and W.
33.50	Top of ridge , 80 ft. above Tp. cor., bears NW. and SE.
	May 27: At this station , I set off 21° 16'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 28' .
	Gradually descend over rolling mountain top through dense undergrowth of sage brush
40.00	Head of ravine drains NW.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in in the ground for ¼ sec. cor. on the E. bdy. sec. 36, with brass cap marked

S 36¼
1914

East boundary of T.15 S., R.1 E.

chains

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

Gradually ascend

54.10 Top of spur , 30 ft. above ¼ sec. cor., projects NW.

Gradually descend

66.00 Head of ravine , drains NW.

Thence over land sloping W. near top of ridge bearing N. and S.

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

T 15 S
R 1 E | R 2 E
S 30
S 25 | S 31
S 36

1914

dig pits , 24 x 24 x 12 ins., in each sec., 6 ft. dist., raise a mound of earth , 4 ft. base , 2 ft. high , W. of cor.

Land , mountainous draining W. into Juab valley.

Soil , generally a rich black loam mixed with gravel , 1 to 2 ft. deep , on hard , moist , black loam sub-soil ; 1 st. rate.

Timber , spruce , pine , balsam fir and some red cedar on S. 20 chs.

Undergrowth , dense sage brush with scattering dense patches of oak , service , choke cherry and buck brush. Land produces an abundant growth of short rich grass good for grazing purposes.

This line follows along the west slope near the top of the divide between Juab and San Pete valleys.

North , on the E. bdy. sec. 25

East boundary of T.15 S., R.1 E.

chains	
	Over rolling mountainous land draining W., through dense undergrowth of sage brush and scattering patches of service , choke cherry and oak .
	Gradually ascend along top W. slope spur.
14.00	Top of spur , projects N.20°W.
	Gradually descend.
15.20	Enter exceptionally dense undergrowth of choke cherry.
	Descend abruptly over NE. slope.
31.80	Enter aspen thicket , bears W. and SE.
36.50	Leave aspen thicket and choke cherry undergrowth , bears N.80°W. and SE.
	Enter sage brush undergrowth , thence gradually descend over rolling ground near E. side of Sage Brush Flat.
39.10	Old road , bears N.75°W. and S.75°W.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor. on the E. bdy. sec. 25 , with brass cap marked S $25\frac{1}{4}$ 1914 from which An aspen , 15 ins. diam., bears S.25°W.,351 lks. dist., marked $\frac{1}{4}$ S 25 B T
43.05	Bottom of large hollow and creek, 6 lks. wide , 3 ins. deep , good water , course N.75°W.
	Leave valley and ascend over S. slope of spur.
54.80	Top of spur , 45 ft. above creek , projects W.
	Thence gradually descend over land sloping nearly W.
56.00	Enter aspen thicket and dense choke cherry brush , bears NW. and SE.
59.70	Leave aspen thicket and choke cherry , enter dense sage brush and scattering patches of oak and service.
62.00	Small ravine , drains SW.
	Ascend abruptly.
80.00	225 ft. above ravine

East boundary of T.15 S., R. 1 E.

chains	
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of secs. 24 and 25 , with brass cap marked
	T 15 S R 1 E | R 2 E S 24 | S 19 S 25 | S 30 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	Land , rough and broken , near top of divide of mountain draining W.
	Soil , gravelly and stony surface on deep , rich , moist sub-soil of black loam and decayed vegetation ; 1 st. rate.
	Undergrowth , sage brush with scattering patches of choke cherry , service , buck and oak brush. Considerable short rich mountain grass , good for grazing purposes.
	Timber , scattering aspen.
	May 27 ,1914
	May 28 :At 8 h. a. m. apparent time I set off 39° 30' on the lat. arc ; 21° 24' N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 24 and 25
	Thence I run
	North , on the E. bdy. sec. 24
	Over rough mountainous land draining SW., through dense undergrowth of sage and scattering patches of service and oak brush.
	Ascend abruptly over S. face of ridge,
3.15	Top of flat top ridge , 50 ft. above sec. cor., bears NW. and SE.
	Thence across top of ridge.
6.00	Leave ridge , bears NW. and SE.
	Descend abruptly over steep N. face.
19.00	Enter dense undergrowth of maple , service and choke

chains	
	cherry and scattering spruce and aspen timber , bears E. and W.
	Descend more gradually.
25.40	Leave spruce timber and maple and choke cherry undergrowth
31.20	Leave aspen timber and sage brush , enter dense choke cherry undergrowth., bears NE. and SW.
	Thence along top of W. slope of spur projecting N.
40.00	500 ft. below top of ridge in dense choke cherry brush Set an iron post , 3 ft. long , 1 in. in dia., 24 ind. in the ground for ¼ sec. cor. on the E. bdy. sec. 24 , with brass cap marked S 24¼ 1914 from which An oak , 6 ins.diam.,bears S.27°W.,77 lks. dist., marked ¼ S 24 B T
42.20	Enter dense spruce and scattering scrub maple timber , bears E. and W.
51.00	Descend more abruptly.
54.00	Leave spruce timber , bears E. and W.
59.00	Leave maple timber and high undergrowth, enter dense short undergrowth.
66.90	Creek in bottom of ravine , 4 lks. wide , 2 ins. deep, good water , 170 ft. below ¼ sec. cor., course NE.
	Ascend over SE. slope 50 ft. to
80.00	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of secs. 13 and 24 , with brass cap marked T 15 S R 1 E | R 2 E S 18 S 13 | S 19 S 24 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.

East Boundary of T.15 S., R.1 E.

chains	
	Land rough mountains , draining from high divide into deep canyon on S. 3.50 chs., and N.into chicken creek on N. 76.50 chs.
	Soil , rich black loam and gravel , on deep , hard , moist black loam sub-soil ; 1 st. rate.
	Timber , scattering patches of spruce , balsam fir , aspen and some maple.
	Undergrowth , dense sage , choke cherry , service , oak and buck brush. Short , rich bunch grass grows abundantly on mile.

	North , on E. bdy. sec. 13
	Over mountainous land covered with dense undergrowth of sage brush and scattering patches of oak and service.
	Gradually ascend over low point on W. side of ravine.
1.50	Top of low point , 15 ft. above sec. cor., falls E.
	Gradually descend.
3.30	Enter aspen thicket , bears NE.and SW.Leave dense sage.
7.00	Small ravine , drains NE.
	Gradually ascend.
10.00	Top of low spur , projects NE.3 chs.
	Leave aspen thicket and enter dense undergrowth of sage brush.
	Gradually descend.
24.00	Enter large ravine , bears NW. and SE.
28.10	Bottom of ravine and creek , 6 lks. wide ,2 ins. deep , good water , 55 ft. below spur , course NW.
32.70	Leave ravine , bears NW. and SE.
	Ascend over SW. slope ridge.
40.00	100 ft. above creek.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor. on the E. bdy. sec. 13 , with brass cap marked

East boundary of T.15 S., R. 1 E.

chains	
	S 13 ¼
	1914.
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
48.60	Enter aspen thicket , bears NE.1 ch. and W.
	May 28: At this station , I set off 21° 26' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 31'
51.11	Leave aspen thicket , bears NW. and SE.
61.50	Top of junction of ridge and spur , bears N.15°E., SE. and W. ; 90 ft. above ¼ sec. cor.
	Gradually descend
63.50	Enter spruce , balsam fir and red cedar timber , bears E. and W.
73.00	Enter more scattering timber and some mohogany.
76.00	Begin descent over broken sandstone ledges , 10 to 30 ft. high , bears N.10°E. and S.10°W.
80.00	On top of ledge , 25 ft. high , bears N.5°E. and S.5°W, Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high , for cor. of secs. 12 and 13 , with brass cap marked

T 15 S
R 1 E | R 2 E
S 7
S 12 | S 18
S 13

1914

from which

A spruce , 24 ins. diam., bears S.76½°W.,84 lks. dist., marked T 15 S R 1 E S 13 B T

A spruce , 10 ins. diam., bears N. 19½°W., 80 lks. dist., marked T 15 S R 1 E S 12 B T

Note: On account of underlying rock I am unable to set post in the ground.

Cor. stands on E. side canyon 300 ft. below junction of ridge and spur.

East boundary of T.15 S., R.1 E.

chains

Land , rolling mountains on S.61.50 chs. and rough broken mountains forming the S. wall of Chicken Creek Canyon on N.18.50 chs. General drainage of land to the N.

Soil ; on S.61.50 chs. hard , moist black loam mixed with gravel on deep moist sub-soil of black loam and gravel ; 1st. rate. N. 19.50 chs. chiefly bare sandstone ledges and surface rock with only enough soil composed of decayed vegetation and disintegrated sandstone to support a scant growth of grass in the crevices of the rocks ; 4 th. rate.

Timber , scattering patches of aspen on S.61.50 chs. and spruce , balsam fir , red cedar and mohogany on N. 18.50 chs.

Undergrowth , chiefly dense sage brush about 2½ ft. high with occasional patches of oak , service and choke cherry. Considerable short mountain grass , good for grazing purposes.

May 28 , 1914.

July 28 : At 9 a. m. apparent time , I set off 39° 31' on the lat. arc ; 19° 06' N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 12 and 13.

Thence I run

North , on E. bdy. sec. 12.

Over rough mountainous land draining N. into Chicken Creek , through spruce , balsam fir , redcedar and aspen timber and undergrowth of sage , service and oak brush.

Descend abruptly over sandstone ledges 10 to 30 ft. high bearing N.10°E. and S.10°W.

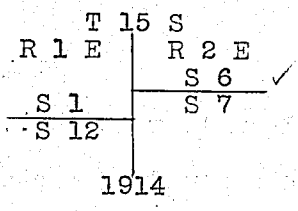
10.00 Bottom of canyon and Chicken Creek , 15 lks. wide , 10 ins. deep , good water , 330 ft. below sec. cor., course NW. A creek , 6 lks. wide , flowing from the S.

chains	
	empties into Chicken Creek about 5 lks. W. of this point.
	Leave spruce , balsam fir , red cedar and aspen timber enter dense oak , service and buck brush.
	Ascend abruptly from canyon over steep , broken rocky land facing nearly S.
25.20	Top of steep ascent and edge of ridge , 485 ft. above chicken creek , bears NW. and SE.
	Leave dense oak , service and buck brush , thence through dense undergrowth of manzanita and mahogany,
	Gradually ascend across top of ridge.
30.40	Leave ridge , bears NE. and SW. Leave manzanita undergrowth , enter oak and service brush.
	Descend abruptly over NW. slope.
38.88	Bottom of ravine and stream , 2lks. wide , 1 in. deep, good water , 125 ft. below ridge , course SW.
	Ascend over SE. slope through scrub cedar and aspen timber.
40.00	Set an iron post , 3 ft. long ,1in. in dia., 24 ins. in the ground for ¼ sec. cor. on the E. bdy. sec. 12 , with brass cap marked S 12 ¼ | 1914
	from which
	An aspen , 3 ins. diam., bears N.75½°W.,12 lks. dist., marked ¼ S 12 B T
	July 28:The sky is overcast at noon , observations for lat. are impossible. Intermittent showers of rain delays progress of work in p. m.
	Continue ascent.
66.71	Top of spur , 310 ft. above ravine , projects E.
	Descend over NE. slope.
74.78	Ravine , 46 ft. below spur , course SE.
	Ascend SW. slope of spur.
80.00	70 ft. above ravine
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins.

East boundary of T.15 S., R.1 E.

chains

in the ground for cor. of secs. 1 and 12 , with brass cap marked



from which

An oak , 4 ins. diam., bears S.46°W., 63 lks. dist.,marked T 15 S R 1 E S 12 B T

A cedar , 4 ins. diam., bears N.19½°W., 67 lks. dist.,marked T 15 S R 1 E S 1 B T

Land , rough mountainous with N. exposure on S.10 chs. and general S. exposure on N. 70 chs.

Soil , generally rocky of yellow sandstone formation with some loose surface soil. Sub-soil , shale rock and black loam , rather moist and packed very hard.

Timber , scattering spruce , balsam fir ; red cedar and aspen. Spruce and balsam fir timber on S.10 chs. only.

Undergrowth , sage , oak , service , mahogany , manzanita and buck brush , usually found in scattering patches.

North , on E. bdy. sec. 1

Over rough mountainous land draining S., through dense undergrowth of sage , oak , service and chaparal and scattering red cedar timber.

Ascend SW. slope spur,

13.50 Top of spur , 80 ft. above sec. cor., projects E.

Leave oak , service and chapparal undergrowth and cedar timber , bears E. and W.

Gradually descend through dense sage brush.

28.50 Ravine , 70 ft. below spur , course SE.

Gradually ascend over nearly S. slope.

40.00 Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ½ sec. cor. on the E. bdy. sec. 1 ,

East boundary T.15 S., R.1 E.

chains

with brass cap marked

S 1 1/4

1914

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

July 28 , 1914

July 29 : At 8 h. a. m. apparent time , I set off 39° 33' on the lat. arc ; 18° 53'N., on the decl. arc ; and determine a meridian with the solar at the ¼ sec. cor. on the E. bdy. sec. 1

Thence I continue

North , on the E. bdy. sec. 1

50.00 Begin ascent over SE. slope.

55.68 Enter dense maple and choke cherry undergrowth , bears N.20°E. and S.20°W.

73.00 Leave maple and choke cherry undergrowth , enter dense sage and scattering service brush.

80.68 Top of ridge , 345 ft. above ravine , bears N.20°E. and S.20°W.

Gradually descend N. slope spur.

85.29 Enter dense aspen thicket and choke cherry undergrowth , bears NE. and SW.

93.40 Ravine , 65 ft. below spur , course E. Leave aspen thicket and choke cherry undergrowth , enter sage and oak brush.

Gradually ascend.

97.52 Set temp. point for Closing cor. of Tp. 15 S., Rs. 1 and 2 E.

July 29 , 1914.

July 31: At 8h. a. m. apparent time I set off 39° 33' on the lat. arc ; 18° 24 ' N., on the decl. arc ; and determine a meridian with the solar at the temp. point for closing cor. of Tp. 15 S., Rs. 1 and 2 E.

Thence I continue

Chains.	
	North, on the E.bdy.sec.1,
97.74	Intersect N.bdy.of the Tp.16.73 chs.west of the $\frac{1}{4}$ sec. cor.S.bdy.sec.31 T.14 S., R.2 E., heretofore described.
	At intersection
	Set an iron post, 3 ft.long, 3 ins.in dia., 24 ins.in a mound of stone and earth, 4 ft.base, 2 ft.high, for closing cor.of Tps.15 S., Rs.1 and 2 E., with brass cap marked

T 14 S R 2 E
S 31

S 1 | C S 6

R 1 E R 2 E
T 15 S
1914

raise a mound of stone, 2 ft.base, $1\frac{1}{2}$ ft.high S.of cor.

Note: On account of natural obstacles I am unable to set post in the ground.

Land, mountainous with general S.exposure on S.80.68 chs. and N.exposure on N.17.06 chs.

Soil, gravelly, rich black loam and some decayed vegetation, with occasional outcroppings of surface rock of sandstone formation. Subsoil, rich, moist, hard, mountain soil.

Timber, scattering groves of aspen.

Undergrowth, sage, maple, choke cherry, service and oak brush.

July 31, 1914.

U.S.Surveyor.

Blank

Page

BOOK A-435

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 "H" T.18 S., R.3 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.
	BEGAN.	ENDED.	

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

.....

4—681

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 Howard W.Miller, U.S.Surveyor, see book "H" T.18 S., R.3 E.

For final oath of Thos.C.Rathbone, U.S.Transitman, see book "E" T.16 S., R.3 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, Oct.28, 1915.

The foregoing field notes of the survey of the east and south boundaries of Township No.18 South, Range No.3 East; south, east, and north boundaries of Township No.18 South, Range No.4 East; east and north boundaries of Township No.17 South, Range No.4 East; east and west boundaries of Township No.16 South, Range No.4 East; and the east boundary of Township No.15 South, Range No.1 East of the Salt Lake Base and Meridian, Utah

executed by Howard W.Miller and Thomas C.Rathbone under his special instructions dated July 19, 1913, 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

Blank

Page

Blank

Page

Filed Feb. 4, 1915.

4—679

Refiled Jan. 16, 1918.

BOOK A-435

— G. —

FIELD NOTES

OF THE ~~SURVEY OF THE~~

RETRACEMENT, RESURVEY, AND SURVEY OF THE SUBDIVISION

TOWNSHIP 15 SOUTH, RANGE 1 EAST,

RETRACEMENT AND RESURVEY OF THIRD STANDARD PARALLEL SOUTH

THROUGH RANGE 1 EAST,

TRACEMENT AND RESURVEY OF THE SALT LAKE MERIDIAN, TOWNSHIP 15 SOUTH,

AND

RETRACEMENT AND RESURVEY OF NORTH BOUNDARY

TOWNSHIP NO. 15 SOUTH, RANGE NO. 1 EAST

Of the SALT LAKE BASE AND *Meridian,*

the State of U T A H

EXECUTED BY

HOWARD W. MILLER AND LYMAN E. BOLINGER

the capacity of U. S. Surveyor and Transitman *under instructions dated* July 19, 1913 and Sept. 15, 1916, Oct — 1 — 1918

ed by the United States Surveyor General to govern surveys included in

up No. 25, *which were approved by the Commissioner of the General Land*

ce, August 13, *191* 3 and Sept. 23, 1916, respectively.

plemental assignment instructions issued by the assistant supervisor Surveys May 1, 1914, and Nov. 25, 1916, respectively, April 17—1919

Survey commenced June 4, *191* 4

Survey completed December 12, *191* 6.

April 24, 1919

6—151

BOOK A-435

INDEX DIAGRAM.

Township 15 South, *Range* 1 East.

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

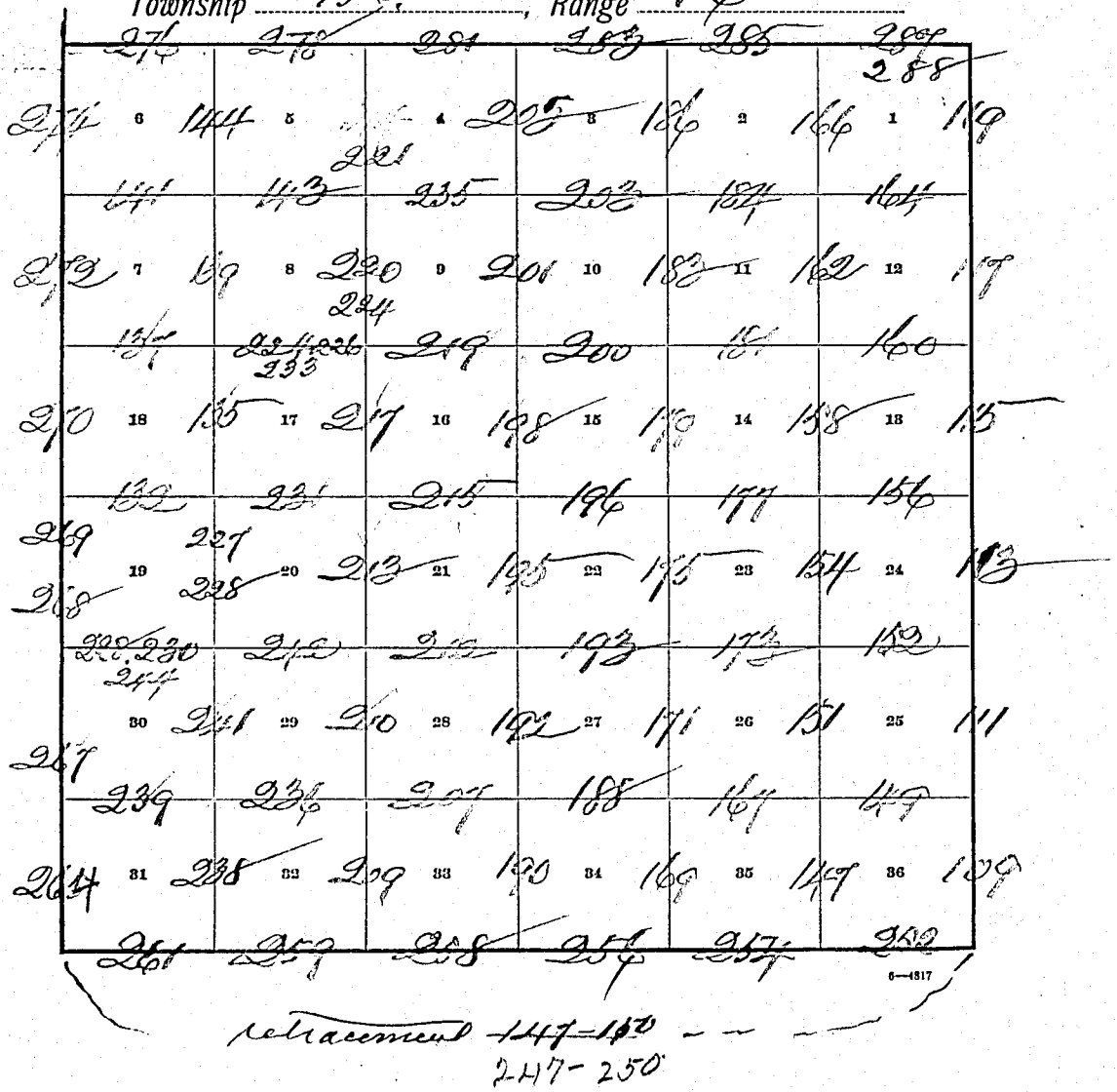
6—151

BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 15 S., Range 1 E



	276		278		281		283		285		287 288
274	6	144	5	221	4	205	3	186	2	166	1	119
	141		143		235		203		184		164	
272	7	139	8	220 224	9	201	10	183	11	162	12	117
	137		224 226 233		219		200		181		160	
270	18	135	17	217	16	198	15	179	14	158	13	115
	132		231		215		196		177		156	
269		227										
268	19	228	20	213	21	195	22	175	23	154	24	113
	228 230 244		242		212		193		173		152	
	30	241	29	210	28	192	27	171	26	151	25	111
267												
	239		236		207		188		167		149	
264	31	238	32	209	33	190	34	169	35	147	36	109
	261		259		258		256		254		252	

6—4317

retracement 147-150

247-250

Filed Feb. 4, 1919.

Refiled Jan. 16, 1918.

4—679

BOOK A-435

G

FIELD NOTES

OF THE SURVEY OF THE

RETRACEMENT, RESURVEY, AND SURVEY OF THE SUBDIVISION

TOWNSHIP 15 SOUTH, RANGE 1 EAST,

RETRACEMENT AND RESURVEY OF THIRD STANDARD PARALLEL SOUTH,

THROUGH RANGE 1 EAST,

RACEMENT AND RESURVEY OF THE SALT LAKE MERIDIAN, TOWNSHIP 15 SOUTH,

AND

RETRACEMENT AND RESURVEY OF NORTH BOUNDARY

TOWNSHIP NO. 15 SOUTH, RANGE NO. 1 EAST,

Of the SALT LAKE BASE AND *Meridian,*

he State of U T A H

EXECUTED BY

Howard W. Miller, U. S. Surveyor and U. S. Cadastral Engineer,
and
Lyman E. Bolinger, U. S. Transitman

~~he capacity of U. S. Surveyor~~, under instructions dated July 19, 1913 Sept. 15, *1916*, Oct. 1, 1918, respec-
ely
ed by the United States Surveyor General to govern surveys included in

up No. 25, *which were approved by the Commissioner of the General Land*

e, August 13, *1913*, Sept. 23, 1916 and Oct. 17, 1918, respec-
ely.
olemental assignment instructions issued by the assistant supervisor of
reys May 1, 1914, Nov. 25, 1916, and Apr. 17, 1919, respectively.

Survey commenced June 4, *1914*

Survey completed April 24, *1919*

6—151

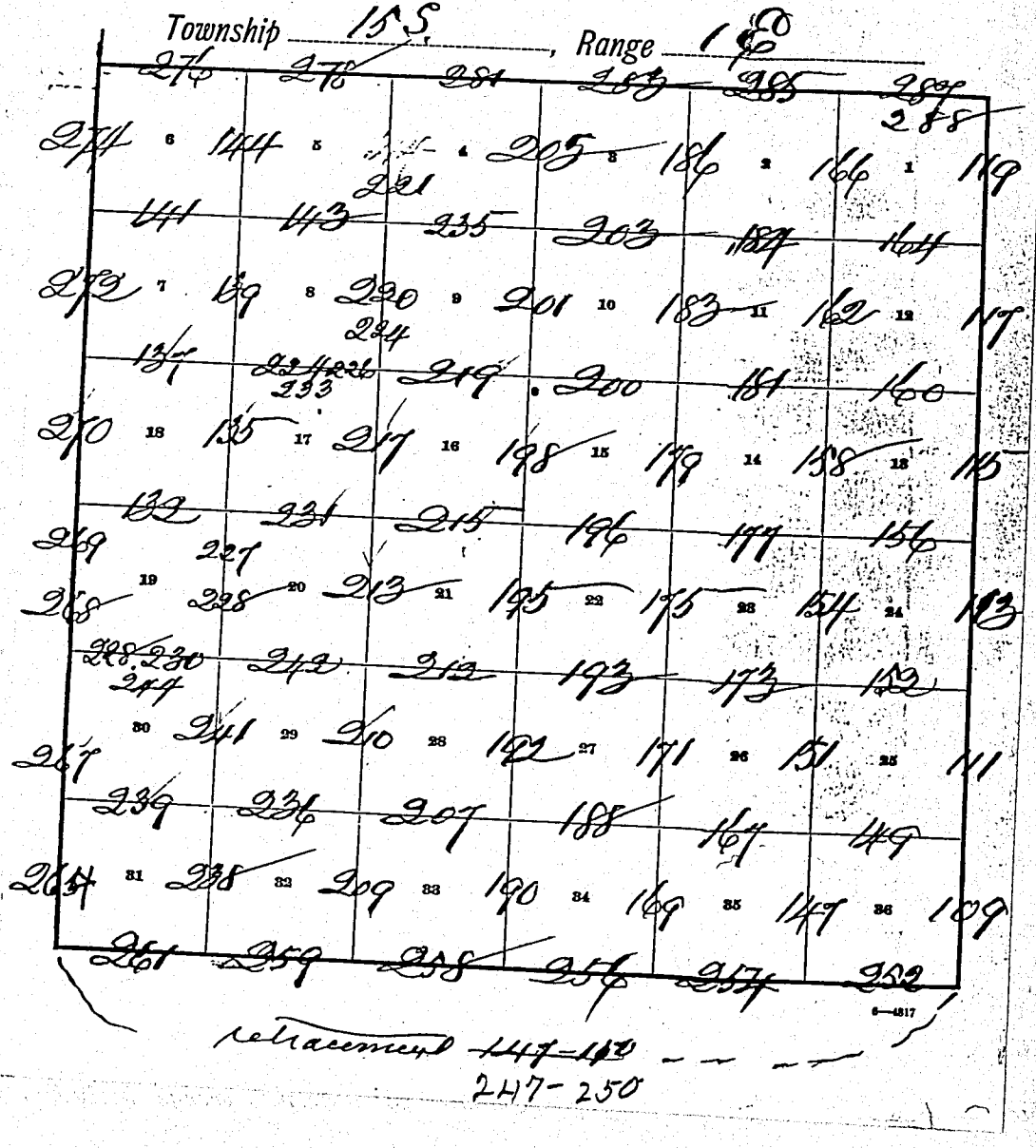
BOOK A-435

4—679 b

INDEX DIAGRAM.

Township 15 S, Range 1 E

	~~276~~		~~278~~		~~281~~		~~283~~		~~285~~		~~287~~ 288
274	6	144	5	221	4	205	3	186	2	166	1	119
	~~141~~		~~143~~		~~235~~		~~203~~		~~184~~		~~164~~
272	7	139	8	220 224	9	201	10	183	11	162	12	117
	~~137~~		~~224 226~~ 233		~~219~~		~~200~~		~~181~~		~~160~~
270	18	135	17	217	16	198	15	179	14	158	13	115
	~~132~~		~~231~~		~~215~~		~~196~~		~~177~~		~~156~~
269		227									
268	19	228	20	213	21	195	22	175	23	154	24	113
	~~228 230~~ 247		~~242~~		~~212~~		~~193~~		~~173~~		~~152~~
267	30	241	29	210	28	192	27	171	26	151	25	111
	~~239~~		~~236~~		~~207~~		~~188~~		~~167~~		~~149~~
264	31	238	32	209	33	190	34	169	35	147	36	109
	~~261~~		~~259~~		~~258~~		~~256~~		~~254~~		~~252~~



6—4817

retracement ~~147-150~~ - - - -

247-250

Retracement and re-survey of the subdivision of T.15 S.,R.1 E.

chains

Survey commenced July 10 , 1914 and executed with a Young and sons light mountain transit No.8517 , with solar attachment. The horizontal limb is provided with two double verniers , placed opposite to each other and reading to single minutes of arc , which is also the least count of the verniers of the lat. and decl. arcs. The instrument was approved for use in this survey by Mr. G.D.D.Kirkpatrick , Assistant Supervisor of Surveys. I examine the adjustments of the transit and find no errors. The sky being overcast on the nights of July 9 and 10 , prevented me from making observations on Polaris. I make an observation on Polaris July 11 and test the solar apparatus of the transit on this meridian July 12 , the record of which follows :

July 11 : At my camp which is situated about ½ mile E. of the ¼ sec. cor. on the E. bdy. sec. 18 , in approximate lat. 39° 31'N., longitude 111° 53'W., I observe Polaris in accordance with the Manual of Instructions at 8 h. 12 m. p. m. l. m. t., and mark the direction of the line thus determined by a peg , set firmly in the ground about 5 chs. N.

Correct L.M.T. of obsn. July 11,1914---- 8 h. 12 m. p. m.
Correct L.M.T. of U.C.Polaris July 11,1914
reduced to long. 111°53'W. 6 h. 14 m. a. m.
Time elapsed between U.C.Polaris and obsn, 13 h. 58 m.
Subtract from 23 h. 56.1m.
Hour angle of Polaris at obsn ---------- 9 h. 58.1 m.
Azimuth of Polaris at obsn.---N.0° 45'E.

July 11 , 1914.

July 12 : At 7 h. 45 m. a.m. apparent time , I lay off the azimuth of Polaris , 0° 45' to the west and note that a rock in the distance bears North.

At. 8 h. a. m. apparent time , I set off 39° 31' on the lat. arc ; 22° 03' N., on the decl. arc ; and determine a meridian with the solar and find that the rock bears North

chains

At 4 h. 10 m. p. m. apparent time , I set off 39° 31' on the lat. arc ; 22° 01'N., on the decl. arc ; and determine a meridian with the solar and find that the rock by this observation bears N.0°01'E.

I have made numerous other observations during the day and find that none of them vary more than 1' from the Polaris meridian and I therefore conclude that the instrument is in good adjustment.

The magnetic bearing of the true meridian at 3 h. p. m. apparent time is N.16° 45'W., the angle thus determined gives the magnetic decl. 16° 45'E.

A steel tape , 5 chs. long was used in the field work , together with a clinometer for determining slope angles and the reduced horizontal distances only appear in the field notes. The tape was tested , comparison being made with a standard tape , 1 ch. long , kept and used for that purpose.

In the declination arc settings , .80 of the tabulated refraction for computing declinations is used , due to the alitiude of the country which is about 6000 ft.

July 10: I begin at the cor. of secs. 13 , 18 , 19 and 24 on the W. bdy. of the tp. heretofore described.

At 8 h. 05m. a. m. apparent time , I set off 39° 30' on the lat. arc ; 22° 19'N., on the decl. arc ; and determine a meridian with the solar.

Thence I run

East , retracing bet. secs. 18 and 19

Gradually ascend over rolling land sloping nearly W., along S. side wire fence bearing E. and W., through

chains	
	scattering short undergrowth of sage and yellow top.
19.20	Cor. of fences bearing N., N.87°E., S. and W. bears N. 25 lks.
	Leave red top undergrowth, enter dense sagebrush, bears N. and S.
26.50	Leave rolling land and sagebrush undergrowth, enter mountainous land, scrub cedar and pinon timber and undergrowth of service and buck brush, bears N.20°E. and S.20°W. Ascend abruptly.
31.90	Spur, 300 ft. above sec. cor., projects SW.
	Gradually descend over steep S. slope.
37.80	Ravine, 25 ft. below spur, course from SE. to SW.
39.94	Fall 5 lks. N. of the ¼ sec. cor. which is a porphyry stone, 12 x 13 x 5 ins. above ground, firmly set and marked and witnessed as described by the surveyor general
	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground alongside old cor. for ¼ sec. cor., with brass cap marked
	S 18 / ¼ / S 19 / 1914
	from which
	A cedar, 10 ins.diam.,bears N.28°W., 15 lks. dist.,marked ¼ S 18 B T
	Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	The bearing of this ½ mile is S.89°56'E., and the distance is 39.94 chs.
	From ¼ sec. cor., I continue
	East
.30	Ravine, course S.10°W.
	Ascend abruptly over W. slope.
3.70	Spur, 100 ft. above ravine, projects NW.
	Thence along broken N. slope.
9.60	Descend abruptly over N. slope.
10.75	Bottom of ravine, 75 ft. below spur, course N.70°W.

Chains	
	Ascend abruptly over SW. slope covered with loose shale rock.
19.20	Top of spur, 200 ft. above ravine, projects NW. Gradually descend over N. slope.
23.90	Begin steep descent over broken rocky land on S. side of deep ravine.
40.00	125 ft. below top of spur.

Fall 6 lks. N. of the cor. of secs. 18 and 19 which is a broken porphyry stone, with marks obliterated and surrounded by a mound of stone and witnessed by two bearing trees properly marked.

I reestablish cor. at same point as follows:

Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 18 and 19, with brass cap marked

T 15 S | R 1 E
S 18 |
S 19 |
1914

from which

A cedar, 32 ins.diam., bears N.27°W., 99 lks. dist., marked T 15 S R 1 E S 18 B T

A cedar, 18 ins.diam., bears S.84°W., 44 lks. dist., marked T 15 S R 1 E S 19 B T

The bearing of this ½ mile is S.89°55'E., and the distance is 40.00 chs.

Land, rolling and mountainous with general W. drainage. W. 26.50 chs. rolling land at foot of mountain, E. 53.44 chs., rough broken mountains.

Soil of rolling land, gravelly and light, warm sandy loam on gravelly sub-soil, 2nd. rate: Soil of mountains generally loose shale rock of limestone formation and dry blue clay on hard, dry clay and shale sub-soil; 4th rate.

Timber, scattering scrub cedar and pinon on E. 53.44 chs.

Undergrowth, service, buck brush, sage and yellow top.

chains	
	From cor. of secs. 18 and 19.
	N.1°05'W., retracing on the E. bdy. of sec. 18.
40.00	No trace of the ¼ sec. cor. can be found.
	July 10,1914: At this station I set off 22°18'N., on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39°31'.
80.56	Fall 37 lks. W. of the cor. of secs. 7,8,17 and 18 which is a porphyry stone, 8 x 14 x 5 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.
	The bearing of this line is N.0°49'W., and the distance is 80.56 chs.
	Thence from cor. of secs. 18 and 19.
	N.0°49'W., resurveying on E. bdy. of sec. 18.
	Over rough mountainous land draining W., through scrub cedar and timber and undergrowth of buck brush.
	Descend abruptly over N. slope.
1.40	Bottom of ravine, 50 ft. below sec. cor., drains W.
	Ascend abruptly over steep S. slope covered with loose shale rock.
9.30	Top of spur, 230 ft. above ravine, projects SW.
	Gradually descend.
11.00	Head of ravine, drains S.70°W.
	Ascend.
14.45	Top of ridge spur, bears N.75°W. and S.75°E.
	Descend abruptly.
16.00	Ravine, near head, 50 ft. below ridge, course N.70°W.
	Ascend 15 ft. to
18.00	Spur, projects N.75°W.
	Descend abruptly over N. slope into Deep canyon.
34.20	Base of steep descent and wash, 40 lks. wide, 6 ft. deep, course NW.
	Thence gradually descend in bottom of canyon.
38.38	Wagon road, bears N.85°W. and S.85°E.
40.28	Proportionate measurement.
	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in

chains	
	the ground for ¼ sec. cor. E. bdy. sec. 18, with brass cap marked S18 ¼ | 1914
	Raise a mound of stone, 2 ft. base; 1½ ft. high, W. of cor.
41.60	Bottom of Deep canyon and creek, 8 lks. wide, 4 ins. deep, good water, 710 ft. below ridge, course N.85°W.
	Ascend abruptly over S. slope of ridge.
49.20	December 7,1916: A northing of 40.00 chs. from the closing cor. of secs. 17 and 20.
	Set an iron post, 3 ft. long, 1 in. in dia., 12 ins. in the ground on solid rock and 14 ins. in a mound of stone for ½ sec. cor. W. bdy. sec. 17, with brass cap marked ¼ S 17 1916
	from which
	A cedar, 12 ins.diam.,bears N.77½°E., 65 lks. dist.,marked ¼ S 17 B T
	A cedar, 8 ins.diam.,bears N.30°E., 89 lks. dist.,marked ¼ S 17 B T
	July 10, 1914:
54.15	Ridge, 450 ft. above creek, bears NE. and SW
	Descend abruptly over steep NW. slope.
63.40	Bottom of ravine and small seep, 280 ft. below ridge, course SW. Ascend over broken SE. slope of ridge.
79.50	Ridge, 350 ft. above ravine, bears NE. and SW.
	Descend over N. slope 20 ft. to
80.56	The cor. of secs. 7,8,17 and 18.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground alongside old cor. for cor. of secs. 7,8,17 and 18, with brass cap marked T 15 S | R 1 E S 7 | S 8 S 18 | S 17 1914
	Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

chains	
	A pinon , 7 ins. diam., bears S.61°W.,88 lks. dist., marked T 15 S R 1 E S 18 B T
	An oak , 6 ins. diam., bears N.21°W.,64 lks. dist., marked T 15 S. R 1 E S 7 B T
	Land , rough mountainous , with steep , rocky N. and S. slopes of ridges into ravines draining W.
	Soil , rocky and loose shale rock of limestone formation with some hard,dry clay sub-soil ; 4 th. rate.
	Timber , scrub cedar and pinon.
	Undergrowth , scattering buck , service , and sage brush.
	July 10 , 1914.
	July 14: Storm of rain prevents field work until 10 a.m.
	At 10 h. a. m. apparent time , I set off 39° 31' on the lat. arc ; 21° 45' N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 7 , 12 , 13 and 18 on the W. bdy. of the tp. heretofore described
	Thence I run
	East , retracing bet. secs. 7 and 18
	Gradually ascend over nearly level cultivated land sloping W.
.10	Small irrigation ditch , course N.
16.90	Wire fence and leave cultivated land , bears N.5°E. and S.5°W.
17.80	Center of county road , from Levan , Utah to Gunnison , Utah , bears about N. and S.
18.30	Wire fence , bears N. and S.
	Enter dense sage brush undergrowth , ascend toward base of mountain.
23.00	Wash , 1 ch. wide , 7 ft. deep , course NW.
30.00	Leave rolling land , enter mountainous land and scrub

chains

cedar timber , bears N. 30°W. and S.30°E.

Ascend.

36.10 Top of spur , 200 ft. above sec. cor., projects N.

Gradually descend over broken N. slope.

39.72 Fall 12 lks. N. of the ¼ sec. cor., which is sandstone , 17 x 10 x 7 ins. above ground , firmly set and marked witnessed as described by the Surveyor General. I re-establish this cor. as follows:

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

S 7
¼
S 18
1914

from which

A cedar , 8 ins. diam., bears S.30°E., 81 lks. dist., marked ¼ S 18 B T

A cedar , 5 ins. diam., bears N.30°W., 45 lks. dist., marked ¼ S 7 B T

The true bearing of this ½ mile is S.89° 50'E., and the distance is 39.72 chs.

From the ¼ sec. cor. I continue

East.

3.10 Ravine , 20 ft. below ¼ sec. cor., course NW.

Ascend over NW. slope of ridge.

18.75 Ridge , 330 ft. above ravine , bears NW. and SE.

Descend.

25.20 Ravine , 100 ft. below ridge , course N.20°W.

Enter oak and buck brush , thence gradually ascend along nearly N. slope ridge.

40.26 Fall 19½ lks. S.of the cor. of secs. 7, 8, 17 and 18 heretofore described.

The true bearing of this ½ mile is N.89° 43'E., and the distance is 40.26 chs.

chains

Land , rolling and mountainous with a general West drainage.

W. 30 chs. rolling land at base of mountain. Soil , light fine , dry , warm sandy loam mixed with gravel on sandy and gravelly sub-soil ; 1 st. rate.

E.49.98 chs. rough mountainous land with steep slopes of ridges. Soil , generally rocky and red clay , packed very hard and mixed with gravel on hard clay sub-soil; 3 rd. rate.

Timber , scrub cedar and some pinon on E. 49.98 chs.

Undergrowth , sage , buck , oak and service brush.

July 14: At this sec. cor. I set off 21° 45'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 31'.

From the cor. of secs. 7,8,17 and 18, I run N.0° 20'W., retracing on the E. bdy. sec. 7

40.00 After a long and careful search , I am unable to find any trace of the old ¼ sec. cor.

82.30 Fall 57 lks. E. of the cor. of secs. 5 , 6 , 7 and 8 which is a porphyry stone , 5 x 11 x 7 ins. above ground , firmly set , and marked and witnessed as described by the Surveyor General.

I re-establish this cor. as follows:

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

T 15 S	R 1 E
S 6	S 5
S 7	S 8

1914

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

chains	
	of cor.
	The true bearing of this line is therefore N.0° 44'W.,
	and the distance is 82.30 chs.
	I begin at the cor. of secs. 7,8,17 and 18
	Thence
	N.0° 44'W., resurveying on the E. bdy. sec. 7.
	Over rough mountainous land draining W., through scrub cedar and pinon timber and undergrowth of buck , service , sage and oak brush.
	Descend over NW. slope.
2.60	Ravine , 60 ft. below cor., course NW.
	Thence along nearly W. slope.
8.30	Ravine , course SW.
	Ascend over SE. slope.
10.91	Spur , 35 ft. above ravine , projects SW.
	Descend over NW. slope.
16.20	Ravine , 110 ft. below spur , course W. Ravine heads about 6 chs. SE. Ascend abruptly
25.75	Top of ridge , 300 ft. above ravine , bears E. and W.
	Descend abruptly over N. slope.
33.90	Head of ravine , 225 ft. below ridge , course NW.
	Gradually ascend.
36.40	Spur , 20 ft. above ravine , projects NW.
	Descend abruptly.
39.90	Deep ravine , 140 ft. below spur , course NW.
	Ascend abruptly 25 ft. to
41.15	Proportionate measurement ,
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high , for ¼ sec. cor. on the E. bdy. of sec. 7 ,
	With brass cap marked
	S ¼ 7
	1914
	This ¼ sec. cor. will hereafter refer to sec. 8 also.

Retracement and re-survey of subdivision of T.15 S.,R.1 E.

chains	
	A cedar , 5 ins. diam., bears S.20°W., 42 lks. dist., marked ¼ S 7 B T
	Note: On account of natural obstacles , I am unable to set post in the ground.
44.85	Spur , 40 ft. above cor., projects W.
	Descend.
47.85	Ravine , 30 ft. below spur , course SW.
	Ascend SW. slope of ridge.
52.00	Wire fence , bears N.45'W. and S.45'E.
	Thence along W. side of fence.
65.10	Ridge , 260 ft. above ravine , bears NW. and SE.
	Descend over nearly N. slope of ridge.
82.30	200 ft. below top of ridge.
	The cor. of secs. 5 , 6 , 7 and 8.
	Land , rough mountains with steep N. and S. slopes of ridges into ravines draining W.
	Soil , gravelly and rocky on rocky sub-soil ; 4 th. rate.
	Timber , scrub cedar and pinon.
	Undergrowth , sage , service , oak and buck brush.
	July 14 ,1914

July 15 : At 7 h. 45 m. a. m. apparent time , I set off 39° 32' on the lat. arc ; 21° 37'N., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1 , 6 , 7 and 12 on the W. bdy. of the tp., heretofore described.

Thence I run

East , retracing bet. secs. 6 and 7.

Over level land in center of road and parallel to telephone line bearing E. and W. Cultivated land on both sides of line.

30.00	Leave road bearing E. and W., cross county road , from Levan , Utah to Gunnison , Utah , Bears NE.1 ch. and SW.

Retracement and re-survey of the subdivision of T.15 S.,R.1 E.

chains	
34.90	County road , bears N. and W.
35.46	Telephone line , bears N. and W.
35.56	Wire fence , bears N. and S. Cor. of fences bearing N. S., E. and W. bears S. 75 lks.
	Leave level land , enter rough mountainous land and undergrowth of sage brush , bears NE. and SW.
	Ascend abruptly.
40.10	120 ft. above county road ,
	Fall 14 lks. S. of the ¼ sec. cor. which is a porphyry stone , 8 x 12 x 6 ins. above ground , firmly set , and marked and witnessed as described by the Surveyor General. I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 1 in. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth , 4 ft. base , 1 ft. high , alongside old cor. for ¼ sec. cor., with brass cap marked
	S 6 / ¼ / S 7. / 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Note: On account of natural obstacles I am unable to set post more than 12 ins. in the ground.
	The true bearing of this ½ mile is N.89° 48'E., and the distance is 40.10 chs.
	From the ¼ sec. cor. I continue
	East
.01	Wire fence , bears N. and S. Cor. of fence bearing N. and W. bears S. about 74 lks.
5.26	Spur , 140 ft. above ¼ sec. cor., projects NW.
	From this point houses bears N.19° 47'W ; N.7° 50'W.; and N.6° 15'W.
	Descend along nearly N. slope.
19.51	Ravine , 140 ft. below spur , course NW.
	Ascend over S. point of spur

chains	
24.80	Same ravine , course SW.
	Ascend abruptly over NW. slope.
38.90	Top of spur , 315 ft. above ravine , projects N.
	Gradually descend.
39.98	Fall 3½ lks. N. of the cor. of secs. 5 , 6 , 7 and 8.
	The true bearing of this ½ mile is S.89° 57'E., and the distance is 39.98 chs.
	Land , level and mountainous.
	W. 35.56 chs. level land lying at the base of mountain and sloping gently to the west. Soil , generally rich light , dry warm sandy loam on deep sandy sub-soil ; 1 st. rate. No timber or undergrowth. This land is all under cultivation.
	E.44.52 chs. rough mountainous land with a general NW. exposure. Soil , stony and gravelly on stony sub-soil; 4 th. rate. Timber a few sacttering cedar on both sides of line. Undergrowth , sage brush.
	Good grass for grazing purposes.
	.....

	East , retracing bet. secs. 5 and 8
40.00	After a long and careful search , I am unable to find any trace of the ¼ sec. cor.
	I begin at the cor. of secs. 5 , 6 , 7 and 8.
	Thence
	East , re-surveying bet. secs. 5 and 8
	Over rough mountainous land draining N., through scattering scrub cedar timber and undergrowth of oak , service , sage and buck brush.
	Descend over NE. slope.
2.60	Ravine , 30 ft. below sec. cor., course NW.
	Ascend abruptly.
9.00	Spur , 100 ft. above ravine , projects N.
	Descend

Retracement and re-survey of the subdivision of T.15 S.,R.1 E.

chains	
13.40	Ravine , 50 ft. below spur , course N.
	Ascend.
18.70	Spur , 100 ft. above ravine , course N.35°E.
	Gradually descend.
22.00	Descend abruptly over nearly E. slope.
32.90	Ravine , 205 ft. below spur , course NW.
	Ascend abruptly over SW. slope.
40.00	On steep SW. slope 250 ft. above ravine
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{S\ 5}{\frac{1}{4}}$
	S 8 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Land , rough , broken mountains with steep E. and W. slopes of ridges into ravines draining N. and NW.
	Soil ; gravelly and rocky on rocky sub-soil ; 4 th. rate.
	Timber , scattering scrub cedar.
	Undergrowth , service , oak , sage and buck brush.
	Land good for grazing purposes only.
	July 15 : At this $\frac{1}{4}$ sec. cor. I set off 21° 35'N., on the decl. arc; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 32'

	From the cor. of secs. 5 , 6 , 7 and 8 , I run N.0° 48'W., retracing bet. secs. 5 and 6 for visible signal set at the cor. of secs. 5 , 6 , 31 and 32 on the N. bdy. of the tp.
40.04	After a long and careful search , I am unable to find any trace of the old $\frac{1}{4}$ sec. cor.
80.18	Intersect the N. bdy. of the tp. at the cor. of secs. 5 , 6 , 31 and 32 heretofore described.

chains	
	The true bearing of this line is N.0° 48'W., and the distance is 80.18 chs.
	I begin at the cor. of secs. 5 , 6 , 7 and 8 ,
	Thence
	N.0° 48'W., re-surveying bet. secs. 5 and 6.
	Over rough mountainous land draining NW., through scattering scrub cedar timber and undergrowth of oak., sage and service brush.
	Descend over NE. slope along W. side of fence.
4.55	Ravine , 130 ft. below cor., course NW.
	Ascend.
6.00	Spur , 20 ft. above ravine , projects NW.
	Descend over NE. slope.
17.10	Ravine , 220 ft. below spur , course NW.
	Gradually ascend along nearly W. slope,
26.00	Point of spur , falls NW.
	Descend.
33.25	Leave mountainous land , timber and undergrowth , bears NE. and SW.
	Thence over nearly level cultivated land sloping gently NW., through young peach orchard , bears NE.1 ch. and SW.
39.50	Leave orchard , bears E. and W. Enter scattering sage brush . The cor. of a fence bearing E. and S. bears E. 25 lks.
40.03	Proportionate measurement.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 6 ¼ | S 5 1914
	raisea mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
53.00	Enter cultivated land , bears E. and W.
60.09	Wire fence , bears E. and W. Intersection of fences

Retracement and re-survey of the subdivision of T.15 S.,R.1 E.

chains	
	from the N. and S. bears E. 20 lks.
	From this point houses bear S.40° 15'W., S. 69° 30'W. and N.71° 30'W.
79.83	Wash , 20 lks. wide , 6 ft. deep , course W.
80.18	The cor. of secs. 5 , 6 , 31 and 32.
	Land , mountainous and nearly level.
	S. 33.25 chs. mountainous land draining NW. Soil , gravelly and rocky on rocky sub-soil ; 4 th. rate. Timber , scattering scrub cedar and pinon. Undergrowth , oak , sage and service brush. Good grass for grazing purposes.
	N.46.93 chs. nearly level land with a general W. exposure. Soil , light , dry , fine , warm sandy clay mixed with gravel on sandy and gravelly sub-soil ; 1 st. rate.
	No timber , Undergrowth , some sage brush. Land about all under cultivation.

July 15 , 1914.

SUBDIVISION OF T. 15 S., R. 1 E.

Survey commenced June 4 , 1914 and executed with a Young and Sons light mountain transit No.8517.

For description , approval of instrument and other data relative to this survey see page 1 of these notes.

I know the instrument to be in good adjustment , having tested it May 31 , on a Polaris meridian established at my camp near the ½ sec. cor. on the E. bdy. sec. 25 , T.15 S., R.1 E.; for record of this test see notes of re-survey of the 3 rd. Standard Parallel South , R.1 E. and for method of obtaining this meridian see notes of the E. bdy. T.15 S.,R.1 E.

---

chains	
	June 4 : Continuous storm of rain prevents field work in a. m., and the sky is overcast in p. m.
	I begin at the cor. of secs. 25 and 36 on the E. bdy. of the tp. heretofore described. With the transit set over this cor., I deflect an angle of 90° from a short foresight along the E. bdy. of the tp. which bears north and run in an approximate west direction bet. secs. 25 and 36. Not being certain of the bearing of this line I measure west setting temp. points at 40 and 80 chs.
	June 4 , 1914.
	June 7: At 7 h. 45 m. a. m. apparent time , I set off 39° 28' on the lat. arc ; 22° 44' N. on the decl. arc; and determine a meridian with the solar at the Standard cor. of secs. 35 and 36 on the S. bdy. of the tp. heretofore described.
	Thence I run
	N.0° 01'W., bet. secs. 35 and 36
	Over rough mountainous land draining S., through dense undergrowth of sage brush.
	Ascend over SE. slope of ridge.
2.70	Enter dense undergrowth of oak and choke cherry brush , bears E. and W.
10.75	Enter dense maple undergrowth , bears E. and W.
12.00	Enter scrub cedar timber , bears E. and W.
14.70	Leave maple and choke cherry undergrowth and cedar timber.
	Thence through dense sage and oak brush.
32.00	Top of ridge , 520 ft. above sec. cor., bears N.30°E. and S.30°W.
	Thence along nearly west slope of ridge gradually descending.
37.80	Leave oak brush , thence throughdense sage and chaparral

Subdivision of T.15 S.,R.1 E.

chains	
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 35 ¼ | S 36 1914 dig pits , 18 x 18 x 12 ins., N. and S. of post , 3 ft. dist., raise a mound of earth , 3½ ft. base , 1½ ft. high , W. of cor.
	Cor. stands on W. slope about 5 chs. W. and 50 ft. below top of ridge.
45.30	Enter oak , service and buck brush , bears E. and W.
49.60	Enter dense choke cherry brush , bears NE. and SW.
51.10	Descend abruptly over N. slope.
56.00	Head of ravine , 90 ft. below ¼ sec. cor., course SW. Ascend abruptly over SW. slope of ridge.
73.65	Top of high ridge and divide between Deep canyon and Little Salt Creek canyon , 175 ft. above head of ravine bears NW. and SE.
	Descend abruptly over N. slope.
77.60	Enter dense aspen thicket , bears NW. and SE.
80.00	60 ft. below top of ridge in east edge of aspen thicket 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 , with brass cap marked T 15 S | R 1 E S 26 | S 25 S 35 | S 36 1914 from which An aspen , 4 ins. diam.,bears N.23¼°E., 23 lks. dist.,marked T 15 S R 1 E S 25 B T An aspen , 4 ins. diam., bears S, 34½°E., 18 lks. dist., marked T 15 S R 1 E S 36 B T An aspen , 4 ins. diam., bears S. 50½°W., 15 lks.

Subdivision of T.15 S.,R.1 E.

chains	
	dist., marked T 15 S R 1 E S 35 B T
	An aspen , 6 ins. diam., bears N.16½°W.,52 lks. dist., marked T 15 S R 1 E S 26 B T.
	Land , rough broken mountains draining S. on first 32 chs. SW. on next 41.65 chs. and N. on N. 6.35 chs.
	Soil , generally a rich black loam mixed with gravel , very moist , and packed hard on deep , moist black loam sub-soil ; 1 st. rate.
	Timber , scattering scrub cedar on both sides of line . Dense aspen timber on N.2.40 chs.
	Undergrowth , chiefly sage brush and oak , with dense patches of choke cherry , service , buck and maple brush.
	Land affords good grass excellent for grazing purposes.

	From the cor. of secs. 25 , 26 , 35 and 36 ; the point set 80 chs./W. approximately of the cor. of secs. 25 and 36 on the E. bdy. of the tp. June 4 , bears North , the distance of the line bet. secs. 25 and 36 is therefore 80.00 chs.
	Having obtained the distance of this line , I now run
	East , on a random line bet. secs. 25 and 36 for falling only.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect the E.bdy. of the tp. at the cor. of secs. 25 and 36 heretofore described.
	Thence
	West , on true line bet. secs. 25 and 36 .
	Over rough mountainous land draining N., through dense undergrowth of sage brush.
	Gradually descend over W. slope of spur.
8.20	Ravine , 50 ft. below sec. cor., course N.
	Ascend E. slope of spur.
9.30	Enter dense choke cherry undergrowth , bears N. and S.

Subdivision of T.15 S.,R.1 E.

chains	
13.00	Leave choke cherry undergrowth , thence ascend through dense sage and scattering patches of service brush.
25.00	Top of spur , 150 ft. above ravine , projects N.15°W. Descend.
26.80	Enter dense service and buck brush , bears N. and S.
38.40	Base of spur and leave service , oak and buck brush , bears NW. and SE. Gradually descend through dense sage.
40.00	225 ft. below top of spur. Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked $\frac{S\ 25}{\frac{1}{4}}$ / $\frac{S\ 36}{1914}$ raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
41.60	Bottom of large ravine and creek , 2 lks. wide , 1 in. deep , good water , course N.
43.90	Stream , 1 lk. wide , 1 in. deep , course NE. Gradually ascend.
57.20	Enter oak , choke cherry and buck brush , bears N. and S. Begin steeper ascent.
69.70	Top of spur , 270 ft. above ravine , projects NE. Descend over NW. slope.
79.60	Enter aspen thicket with dense undergrowth of choke cherry , bears N. and S.
80.00	The cor. of secs. 25 , 26 , 35 and 36. Land , mountainous draining N. with rather steep E. and W. slopes of spurs in to ravines. Soil , rich , moist black loam mixed with gravel on deep , hard , moist black loam sub-soil ; 1 st. rate. Timber , some aspen with scattering patches of aspen and spruce on both sides of line. Undergrowth , dense sage , oak , service and choke cherry

Subdivision of T.15 S.,R.1 E.

chains	
	brush.
	June 7: At this sec. cor. I set off 22° 44'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 29'

	June 11: At 7h. 30m. a. m. apparent time I set off 39°29' on the lat. arc ; 23° 04'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 25 , 26 , 35 and 36.
	Thence I run
	NO° 01'W., bet. secs. 25 and 26.
	Over mountainous land draining N., through dense aspen timber and undergrowth of choke cherry.
	Gradually descend over N. slope.
.90	Leave aspen timber , bears SE. and SW.
3.30	Leave dense choke cherry undergrowth , enter dense sage and chaparral.
7.40	Bottom of ravine , and stream , 2 lks. wide , 1 in. deep , good water , 35 ft. below sec. cor., course NE.
	Gradually ascend along E. slope of spur.
20.00	Enter dense choke cherry undergrowth , bears NE. and SW.
40.00	On top of low spur , 50 ft. above ravine , projects NE.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S. 26 ¼ | S 25
	1914
	from which
	An aspen , 7 ins, diam., bears N.2½°E., 409 lks. dist., marked ¼ S 25 B T
	An aspen , 7 ins. diam., bears N.15°W., 419 lks. dist., marked ¼ S 26 B T
	Gradually descend over N. slope.

Subdivision of T.15 S.,R.1 E.

chains	
44.00	Enter aspen thicket with dense choke cherry undergrowth , bears E. and W.
49.70	Leave aspen timber , bears NE. and SW.
55.85	Bottom of ravine and creek , 2 lks. wide , 1 in. deep, good water , 100 ft. below ¼ sec. cor., course NE. Gradually ascend.
65.00	Spur , 60 ft. above ravine , projects NE. Enter aspen. Gradually descend over gentle NE. slope.
79.75	Enter broken sandstone ledge , bears NE. and SW. Descend abruptly
80.00	Point for cor. of secs. 23 , 24 , 25 and 26 falls on ledge where cor. cannot be set. Mark (+) at exact cor. point.
	Land , mountainous with a general N. drainage.
	Soil , rich black loam and gravel with occasional outcroping of surface rock on deep, black loam sub-soil ; 2 nd. rate.
	Timber , aspen with some scattering spruce on both sides of line.
	Undergrowth , dense sage , choke cherry , chaparral and some oak brush.
	June 11 : At this sec. cor. I set off 23° 05'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 30'.
	East , on random,line bet. secs. 24 and 25
40.00	Set temp. ¼ sec. cor.
79.95	Intersect E. bdy. of the tp. 2 lks. N. of the cor. of secs. 24 and 25 heretofore described.
	Thence
	N.89° 59'W., on true line bet. secs 24 and 25.
	Over mountainous land draining W., through dense under-growth of oak , service , sage and buck brush.
	Descend abruptly over SW. slope of high ridge.

chains	
28.00	Base of ridge , 440 ft. below sec. cor., bears NW. and SE. Leave oak , service and buck brush , thence over rolling land along N. side of what is commonly called Sage Brush Basin.
28.45	Deep Creek ,10 lks. wide , 3 ins. deep , good water , course NW.
37.10	Same creek , course at bend from NE. to NW.
39.97½	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 24 ¼ S 25 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
56.35	Stream, 3 lks. wide , 1 in. deep , good water , course N.
56.50	An old corral , bears N. 2 chs.
74.00	Leave sage brush basin , bears N. and S. Ascend over E. slope 50 ft. to
79.95	The true cor. point of secs. 23 , 24 , 25 and 26.
	Land , rough mountainous and rolling with a general W. drainage.
	E. 28 chs. and W, 5.95 chs. mountainous land with SW. and E. slopes into Basin. Soil , generally rocky and gravelly with some rich , black mountain soil on gravelly and rich moist black loam sub-soil ; 2 nd. rate.
	Central 46.00 chs. of this mile trolling land in N. edge of large basin. Soil , rich , moist , black loam on deep black loam sub-soil ; 1 st.rate.
	No timber.
	Undergrowth , sage , oak , service and buck brush.
	June 11 ,1914
	June 12 : At 7h.30m.a.m.apparent time I set off 39° 32' on the lat. arc ; 23° 09'N., on the decl. arc ; and

Subdivision of T.15 S.,R.1 E.

chains	
	determine a meridian with the solar at the true cor. point of secs. 23 , 24 , 25 and 26.
	Thence I run
	N.0°01'W., bet. secs. 23 and 24.
	Over rough mountainous land , descending abruptly over ledge on E. edge of aspen thicket.
.45	Base of ledge , 25 ft. below true cor. point , bears NE. and SW.
	Set an iron post , 3 ft. long , 2 ins. im dia., 24 ins. in the ground for witness cor. to secs. 23 , 24 , 25 and 26 , with brass cap marked

T 15 S | R 1 E
S 23 | S 24
WC
S 26 | S 25
1914

from which

An aspen , 6 ins. diam., bears S.62½°W., 108 lks. dist., marked TW C T 15 S R 1 E S 26 B T

An aspen , 4 ins. diam., bears N.88°W., 67 lks. dist., marked W C T 15 S R 1 E S 23 B T

No other trees within limits.

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

Continue steep descent.

2.50	Bottom of Deep @anyon and creek , 10 lks. wide , 4 ins. deep , good water , 40 ft. below cor., course W.
	Ascend abruptly over sandstone ledges and sage and oak brush.
10.00	Enterscattering scrub cedar timber , bears E. and W.
13.00	Enter dense oak brush , bears NE. and SW.
22.00	Top of spur , 275 ft. above canyon , projects SW.
	Leave dense undergrowth and ledges , thence decsend over NW. slope of spur through dense spruce , balsam fir and mahogany timber.
29.74	Top of perpendicular ledge , 30 ft. high , bears NE. and SW.

chains	
	Leave timber , descend through dense undergrowth of sage brush.
31.80	Bottom of ravine and stream , 2 lks. wide , 2 ins. deep , good water , 140 ft. below spur , course SW.
	Ascend abruptly over broken SE. slope.
40.00	Top of spur , 165 ft. above ravine , projects E.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for $\frac{1}{4}$ sec. cor., with brass cap marked
	S $\frac{23}{\frac{1}{4}}$ | S 24
	1914
	raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , W. of cor.
	Note: On account of natural obstacles I am unable to set post in the ground.
	Descend.
43.00	Ravine , 50 ft. below spur , course S.65°E.
	Ascend abruptly.
45.00	Spur , 45 ft. above ravine , projects S.80°E. about 7 chs.
	Gradually descend along broken E. slope.
60.00	Enter aspen thicket , bears E. and W.
63.90	Head of ravine , drains SE.
	Ascend abruptly over S. slope.
66.50	Leave aspen thicket and dense undergrowth , bears E. and W.
	Ascend through sage brush.
70.40	Top of ridge and divide between Deep Canyon and Chicken Creek Canyon , 75 ft. above head of ravine , bears NW. and SE.
	Thence along E. slope.
75.50	Enter exceptionally dense choke cherry undergrowth , bears E. and W.
80.00	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 , with brass cap marked

chains

T 15 S S 14	R 1 E S 13
S 23	S 24

1914

dig pits , 18 x 18 x 12 ins., in each sec., 5½ ft. dist., raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.

Note: Cor. stands on E. slope in dense choke cherry thicket.

Land , mountainous , draining N. and S. into Deep Canyon on S. 70.40 chs. and E. into Chicken Creek on N.9.60 chs.

Soil , gravelly and rocky of conglomerate sandstone formation on S. 70.40 chs. and deep , moist , rich black loam on N. 9.60 chs., sub-soil , generally gravelly and rocky ; 4 th. rate.

Timber , scattering scrub cedar , aspen and some spruce balsam fir and mohogany.

Undergrowth , dense sage , oak , choke cherry and service brush., usually found in patches.

June 12 : At this sec. cor., I set off 23° 09' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 30'.

S.89° 59'E., on a random line bet. secs. 13 and 24.

40.00 Set temp. ½ sec. cor.

79.96 Intersect E. bdy. of the tp. 3 lks. N. of the cor. of secs. 13 and 24 heretofore described.

Thence

N.89° 58'W., on true line bet. secs. 13 and 24.

Over rough mountainous land draining N., ascend through dense undergrowth of oak and sage brush over land facing E.

3.00 Enter dense aspen , scattering spruce and balsam fir timber

chains

and dense undergrowth of oak , maple sage and service brush.

16.10 Spur , 200 ft. above sec. cor., projects NE.

Descend abruptly through exceptionally dense timber and undergrowth.

29.50 Bottom of ravine and stream , 2 lks. wide , 1 in. deep, 160 ft. below spur , course NE.

Ascend abruptly 150 ft. to

39.98 Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

$$\frac{S\ 13}{\frac{1}{4}}$$

$$S\ 24$$
$$1914$$

from which

A spruce , 8 ins. diam.,bears N.67°E., 29 lks. dist., marked $\frac{1}{4}$ S 13 B T

A spruce , 10 ins. diam.,bears S.40°E.,14 lks. dist., marked $\frac{1}{4}$ S 24 B T

Continue steep ascent.

45.40 Spur , 110 ft. above $\frac{1}{4}$ sec. cor., projects NE.

Descend.

56.50 Bottom of ravine , 110 ft. below spur , course N.20°E.

Thence ascend over broken land sloping NE. through exceptionally dense timber and undergrowth .

65.00 Leave aspen timber , bears N. and S.

68.00 Leave spruce,balsam fir and cedar timber and oak , service , chaparral , maple and sage brush undergrowth , thence ascend through exceptionally dense choke cherry undergrowth.

68.50 Top of steep ascent , bears NW. and SE.

Ascend more gradually.

79.96 The cor. of secs. 13 , 14 , 23 and 24 , 540 ft. above ravine.

Land , rough , broken mountains draining N.

Soil , rich , moist black loam and decayed vegetation

chains	
	on deep black loam sub-soil ; 1 st. rate.
	Timber , aspen , spruce , balsam fir and scattering scrub cedar.
	Undergrowth , oak , choke cherry , service , sage , maple, chaparral and buck brush. Land supports an abundant growth of grass good for grazing purposes.
	June 12 , 1914.
	June 13 : At 8 h. a. m. apparent time I set off 39° 30' on the lat. arc ; 23° 12' 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
	N.0° 01'W., bet. secs. 13 and 14.
	Over rough mountainous land draining N., through dense undergrowth of choke cherry and sage brush . A few scattering spruce and balsam fir trees on both sides of line.
	Gradually descend over nearly E. slope.
4.00	Begin descent over land sloping N.
25.00	Enter aspen timber , bears E. and W.
25.30	Draw , 90 ft. below sec. cor., drains NE.
	Ascend.
32.00	Enter dense spruce and balsam fir timber , bears E. and W.
32.50	Spur , 50 ft. above draw , projects NE.
	Enter dense oak , service and buck brush with timber.
	Descend over NW. slope 70 ft. to.
40.00	About 1 ch. E.of the bottom of a ravine draining N. on steep W. slope.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S $\frac{1}{4}$ 14 | S 13

1914

from which

Subdivision of T.15 S.,R.1 E.

chains	
	A spruce , 20 ins. diam., bears S.24½°E., 51 lks. dist., marked ¼ S 13 B T
	A spruce , 7 ins. diam., bears S.66¾°W., 70 lks. dist., marked ¼ S 14 B T.
50.80	Bottom of ravine and stream, 4 lks. wide , 2 ins. deep , good water , 115 ft. below ¼ sec. cor., course NE.
	Leave timber and choke cherry undergrowth , bears NE. and SW.
	Ascend over SE. slope.
66.00	Spur , 70 ft. above ravine , projects NE.
	Thence descend along broken E. slope of high ridge.
72.00	Ravine , drains NE.
	Ascend.
77.20	Spur , projects E.
	Descend abruptly 50 ft. to
79.35	Ravine , drains E.
	Ascend 30 ft. to
80.00	On steep S. slope.
	Set an iron post , 3 ft. long , 2 ins. in dia.,12 ins. in the ground and 12 ins. in a mound of stone and earth , 4 ft. base , 1 ft. high , for cor. of secs. 11 , 12 , 13 and 14 , with brass cap marked

T 15 S S 11	R 1 E S 12
S 14	S 13

1914

from which

A mahogany , 5 ins. diam.,bears N.4½°E.,119 lks. dist., marked T 15 S R 1 E S 12 B T

A cedar , 10 ins. diam., bears S.17½°E.,243 lks. dist., marked T 15 S R 1 E S 13 B T

A cedar , 14 ins. diam., bears S.1½°W., 286 lks. dist., marked T 15 S R 1 E S 14 B T

A mohogany , 6 ins. diam., bears N.10¾°W., 110 lks. dist., marked T 15 S R 1 E S 11 B T.

Subdivision of T.15 S.,R.1 E.

chains	
	Note: On account of natural obstacles , I am unable to set post more than 12 ins. in the ground.
	Land , high broken mountains draining N.
	Soil , generally a rich , moist , black loam mixed with gravel on deep , rich black loam sub-soil ; 1 st. rate.
	Timber , spruce , balsam fir , aspen and some cedar , found in scattering patches along the line.
	Undergrowth , dense choke cherry , oak , sage , service and buck brush . Land produces an abundant growth of grass , good for grazing purposes.
	June 13 : At this sec. cor., I set off 23° 13'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 31'.

	S.89° 58'E., on a random line bet. secs. 12 and 13.
40.00	Set temp. ¼ sec. cor.
79.92	Intersect E. bdy. of the Tp. 5 lks. S. of the cor. of secs. 12 and 13 heretofore described.
	Thence
	West , on true line bet. secs. 12 and 13
	Over rough mountainous land draining N., through spruce, balsam fir and red cedar timber and undergrowth of oak, service and buck brush.
	Descend abruptly into canyon over series of sandstone ledges.
5.30	Bottom of canyon and stream., 6 lks. wide , 2 ins. deep , good water , 160 ft. below cor., course N.
	Leave spruce and balsam fir timber , ascend abruptly over broken E. slope through scrub cedar timber and dense undergrowth.
21.80	Top of spur , 450 ft. above canyon , projects N.20°E.
	Leave cedar timber , gradually descend through aspen , balsam fir and spruce timber.

Subdivision of T.15 S.,R.1 E.

chains	
29.90	Bottom of ravine and stream , 2 lks. wide , 1 in. deep , good water , 35 ft. below spur , course N.15°E.
	Ascend abruptly
33.35	Spur , 90 ft. above ravine , projects N.30°E.
	Descend over NW. slope and top of breaks on S. side of Chicken Creek Canyon .
38.70	Bottom of ravine 110 ft. below spur , course N.
	Ascend.
39.91	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S 12 ¼ S 13 1914
	from which
	An oak , 6 ins. diam., bears N.75°E., 37 lks. dist., marked ¼ S 12 B T
	An oak , 5 ins. diam., bears S.30°W., 21 lks. dist., marked ¼ S 13 B T
41.00	Top of ledge on top of spur , 40 ft. above ravine , projects N.
	Descend abruptly.
44.00	Ravine , 60 ft. below spur , course N.
	Ascend abruptly over NE. slope.
58.80	Top pf spur , 285 ft. above ravine , projects N.
	Descend over W. slope through dense timber and undergrowth.
72.80	Bottom of deep ravine , and stream , 4 lks. wide , 2 ins. deep, good water , 360 ft. below spur , course N.5°E.
	Leave , aspen , balsam fir and spruce timber and undergrowth of service , maple and buck brush.
	Ascend abruptly over E. slope through dense oak and sage brush.
79.82	The cor. of secs. 11 ,12 , 13 and 14 , 135 ft. above ravine.
	Land , rough broken mountains following along the top of the S. breaks of Chicken Creek canyon and drains to the N.

Subdivision of T.15 S., R.1 E.

chains

Soil ; gravelly , rich black loam and considerable bed rock extending above the surface . On the parts where the black loam is found the soil is very deep and consists of decayed vegetation and moist black loam ; 1 st rate.

Timber , balsam fir , spruce , aspen and red cedar .

Balsam fir , spruce and aspen timber found chiefly on the N. slopes.

Undergrowth , oak , service , buck and sage brush.

June 13 ,1914.

July 22 : For solar observation see line bet. secs. 11 and 14.

N.0° 01'W., bet. secs. 11 and 12

Over rough mountainous land through scrub cedar , pinon and mohogany timber and undergrowth of oak , service and buck brush.

Ascend 25 ft. to

1.20 Spur , projects E.

Thence gradually descend along broken E. slope of ridge.

11.35 Ravine , 75 ft. below spur , course E.

Ascend SE. slope.

28.45 Rocky spur ; 125 ft. above ravine ; projects NE.

Descend over steep, broken N. face of mountain over series of conglomerate sandstone ledges bearing NE. and SW.

40.00 400 ft. below spur on steep N. face mountain.

Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base ; 2 ft. high for $\frac{1}{4}$ sec. cor., with brass cap marked

S 11 | S 12
$\frac{1}{4}$
1914

from which

Subdivision of T.15 S.,R.1 E.

chains

A spruce , 12 ins. diam.,bears S.56½°E.,11 lks. dist.,marked ½ S 12 B T

A spruce , 8 ins. diam.,bears N.68¾°W., 26 lks. dist.,marked ½ S 11 B T

Note: On account of natural obstacles , I am unable to set post in the ground.

Continue steep descent.

47.00 Bottom of Chicken Creek Canyon and creek , 12 lks.wide , 6 ins. deep , good water , 210 ft. below ¼ sec. cor., course NW.

Leave spruce and balsam fir timber, bears NW. and SE.

Ascend abruptly over broken SW. slope of canyon over series of conglomerate ledges through scattering cedar and pinon timber and undergrowth of buck brush.

68.00 Rocky spur , 440 ft. above canyon , projects W.

Thence over nearly W. slope of broken rocky mountain.

77.00 Ravine , drains SW.

Ascend abruptly.

80.00 Amongst ledges and boulders.

Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high , for cor. of secs. 1 , 2 , 11 and 12 , with brass cap marked

T 15 S S 2	R 1 E S 1
S 11	S 12

1914

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

Note : On account of natural obstacles , I am unable to set post in the ground.

Land , rough and broken mountains. S.28.45 chs. E. slope of ridge. Next 18.55 chs. broken N. slope forming S. wall of Chicken Creek Canyon and N.33.00 chs. SW. slope forming W. brooks of high mountain.

Soil ; all rocky and surface rock of conglomerate

Subdivision of T.15 S., R.1 E.

chains	
	sandstone formation ; 4 th. rate.
	Timber , scrub cedar and pinon , mohogany , spruce and balsam fir. Spruce and balsam fir timber found only on the N. slope of canyon.
	Undergrowth , buck , oak and service brush.
	July 22 , 1914.

	August 1 : At 7 h. 45 m. a. m. apparent time , I set off 39° 32' on the lat. arc ; 18° 09'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 1 , 2 , 11 and 12.
	Thence I run
	East , on a random line bet. secs. 1 and 12.
40.00	Set temp. ¼ sec. cor.
79.75	Intersect E. bdy. of the tp. 2 lks. N. of the cor. of secs. 1 and 12 heretofore described.
	Thence
	N.89° 59'W., on a true line bet. secs. 1 and 12
	Over rough mountainous land through dense undergrowth of sage , oak and service brush. Land drains to the S.
	Descend.
1.95	Small ravine , 20 ft. below sec. cor., course SE.
	Ascend E. slope of ridge.
10.25	Enter dense choke cherry and maple thicket , bears E. and W.
11.50	Leave choke cherry and maple thicket.
16.20	Top of ridge , 250 ft. above ravine , bears N.35° E., and S.35°W.
	Descend over W. slope.
21.40	Enter exceptionally dense undergrowth of oak , service , choke cherry and maple., bears E. and W.
35.50	Bottom of ravine and stream , 2 lks. wide , 1 in. deep, good water , 530 ft. below ridge , course S.25°W.

Subdivision of T.15 S.,R.1 E.

chains	
	Leave dense undergrowth of service , choke cherry and maple , thence ascend over SE. slope of high ridge through dense oak and sage brush.
39.87½	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 1 ¼ S 12 1914 from which An oak , 4 ins. diam., bears N.59°E., 93 lks. dist., marked ¼ S 1 B T An oak , 4 ins. diam., bears S.55°E., 87 lks. dist., marked ¼ S 12 B T
55.48	Top of ridge , 400 ft. above ¼ sec. cor., bears N. and S. Thence across top of ridge.
57.40	Leave oak and sage brush , enter scattering scrub cedar timber , bears N. and S. Descend abruptly over W. face of mountain over series of conglomerate sandstone ledges and boulders.
79.75	600 ft. below. top of ridge. The cor. of secs. 1 , 2 , 11 and 12. Land , mountainous with steep E. and W. slopes of ridges draining S. into Chicken Creek. W. 22.35 chs. very steep and broken W. face of mountain. Soil ; generally rocky and gravelly of sandstone formation on gravelly and rocky sub-soil; 4 th. rate. Timber , scattering scrub cedar and pinon with patches of aspen on both sides of line. Undergrowth , dense sage , oak , choke cherry , maple , service and buck brush. August 1 ; At this sec. cor., I set off 18° 06'N., on the decl. arc ; and at apparent noon observe the sun on the meridian , the resulting lat. is 39° 32'.

Subdivision of T.15 S.,R.1 E.

chains

Knowing that closing cors. will be necessary on the N. bdy. of the tp., I run

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

Over rough broken mountainous land along W. face of high broken mountain through scattering undergrowth of buck brush and scrub cedar and pinon timber.

Ascend abruptly over series of broken conglomerate sandstone ledges.

28.00 Top of high point , 500 ft. above sec. cor., falls W.

Descend over ledges and steep W. face of ridge.

40.00 300 ft. below point.

Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S 2 $\frac{1}{4}$ | S 1

1914

from which

A cedar 8 ins. diam., bears N.12°E., 78 lks. dist., marked $\frac{1}{4}$ S 1 B T

A pinon , 5 ins. diam., bears N.86°W., 110 lks. dist., marked $\frac{1}{4}$ S 2 B T

42.10 Begin steep descent over series of ledges facing NW.

55.00 Bottom of ravine , 400 ft. below $\frac{1}{4}$ sec. cor., course W.

Ascend abruptly SW. slope over ledges.

66.51 Point for closing cor. of secs. 1 and 2 will fall on ledge where cor. cannot be set , therefore at this point

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. 1 and 2 , with brass cap marked

T 14 S R 1 E
S 35 | S 36

WC
CC

S 2 | S 1
T 15 S
1914

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , S. of cor.
67.20	Intersect N. bdy. of the tp. 15.15 chs. S.88° 38'E. of the true cor. point for the ½ sec. cor. on the S. bdy. sec. 36 , T. 14 S., R. 1 E., heretofore described.
	Point for closing cor. falls on ledge where cor. cannot be set.
	Land , rough broken mountain on W. side of high breaks of mountain.
	Soil ; all rocky and surface rock of red conglomerate sandstone formation ; 4 th. rate.
	Timber , scrub cedar , pinon and some mohogany.
	Undergrowth , buck and service brush.
	August 1 , 1914.

	June 7 : For solar observation see line bet. secs. 35 and 36.
	From the cor. of secs. 25 , 26 , 35 and 36 , I run West , on sectional correction line bet. secs. 26 and 35 Over rough mountainous land draining N., through dense aspen timber and undergrowth of choke cherry brush. Gradually descend.
1.90	Leave aspen timber and choke cherry undergrowth , beans N. and S. in head of ravine drains N.
	Ascend
5.00	S.2 chs. from line is a low saddle in ridge dividing Little Salt Creek to the S. and Deep Creek to the N.
6.00	Top of ridge and divide between Little Salt Creek and Deep Creek , 35 ft. above head of ravine , bears NW. and SE
	Gradually descend over SW. slope through scattering oak brush and dense sage.
16.00	Ravine , 60 ft. below ridge , course S. Heads about 6 chs. N.

Subdivision of T.15 S.,R.1 E.

chains	
	Gradually ascend.
30.85	Top of point of spur , falls S.
	Descend.
32.35	Enter dense undergrowth of oak , service , choke cherry and sage brush.
34.05	Ravine , drains SE.
	Ascend abruptly.
40.00	90 ft. above ravine.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked
	S 26 / $\frac{1}{4}$ / S 35 / 1914
	raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , N. of cor.
46.00	Top of ridge , 85 ft. above $\frac{1}{4}$ sec. cor., bears N. and S.
	Gradually descend over W. slope.
53.90	Ravine , 35 ft. below ridge , drains S.
	Gradually ascend over E. slope.
58.00	Top of ridge and divide between N. and S. forks of Little Salt Creek , bears NE. and SW.
	Descend.
70.00	Enter dense maple and choke cherry undergrowth , bears N. and S.
76.70	Leave dense maple undergrowth , thence through dense choke cherry and oak brush.
80.00	300 ft. below top of ridge.
	Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground for cor. of secs. 26 , 27 , 34 and 35 with brass cap marked
	T 15 S | R 1 E / S 27 | S 26 / S 34 | S 35 / 1914
	from which

Subdivision of T.15 S.,R.1 E.

chains

An oak , 6 ins. diam., bears N.22°E., 228 lks. dist., marked T 15 S R 1 E S 26 B T

A maple , 10 ins. diam., bears S.72¼°E.,208 lks. dist., marked T 15 S R 1 E S 35 B T

A maple , 6 ins. diam., bears S.56¼°W., 139 lks. dist.,marked T 15 S R 1 E S 34 B T

An aspen , 6 ins. diam., bears N.86°W.,262 lks. dist.,marked T 15 S R 1 E S 27 B T

Land , mountainous draining N. into Deep Canyon on E. 6 chs. and S. and W. into Little Salt Creek on W.74 chs.

Soil , gravelly and rich black loam , on deep , moist , black loam sub-soil ; 2 nd. rate.

Timber , aspen on E.1.90 chs.

Undergrowth , sage , oak , maple , service , choke cherry and buck brush. Good grass for grazing purposes.

June 7 , 1914

June 9 : At 9 h. a. m. apparent time , I set off 39° 29' on the lat. arc ; 22° 55'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 26 , 27 , 34 and 35.

Thence I run

South , on a random line bet. secs. 34 and 35.

40.00 Set temp. ¼ sec. cor.

80.20 Intersect 3 rd. Standard Parallel South 5 lks. S.88° 38'W., of the standard cor. of secs. 34 and 35. heretofore described.

Thence

N.0°02'W., on true line bet. secs. 34 and 35.

Over mountainous land draining S., through dense undergrowth of oak , service and sage brush.

Ascend over S. slope.

15.70 Top of spur , 225 ft. above cor., projects SW.

Gradually descend.

BOOK A-435

chains

18.40 Stream in ravine , 1 lk. wide , 1 in. deep , 20 ft. below spur , course SW.

Ascend abruptly over S. face bench.

28.20 Top of S. edge bench , 296 ft. above ravine , bears E. and W. Leave all undergrowth , thence gradually ascend across bench.

33.45 Leave bench , bears E. and W. Enter dense undergrowth of oak , service and sage brush.

Ascend abruptly over S. slope.

37.20 Top of steep ascent, 115 ft. above edge of bench , bears E. and W.

Gradually ascend through dense sage brush and scattering oak and service.

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

S 34 | S 35
¼
1914

from which

An oak , 9 ins. diam., bears S.78°W., 78 lks. dist., marked ¼ S 34 B T.

No other tree within limits

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

Thence over rolling mountainous land with general S. exposure.

66.20 Top of ridge and divide between N. and S. forks of Little Salt Creek , bears E. and W. 75 ft. above ¼ sec. cor.

June 9 : At this station I set off 22° 55'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 28'.

Enter dpruce and balsam fir timber and dense undergrowth of maple and choke cherry brush.

Descend over N. slope.

74.70 Leave timber , bears NW. and SE.

Subdivision of T.15 S.,R.1 E.

chains	
80.20	The cor. of secs. 26 , 27 , 34 and 35 , 180 ft. below top of divide.
	Land , mountainous , draining S. on S.66.20 chs. and N. on N. 14 chs.
	Soil , gravelly , light dry clay and some rich black loam on gravelly and black loam sub-soil ; 3 rd. rate. Clay soil found on steep S. slopes.
	Timber , some spruce and balsam fir on 8.50 chs.
	Undergrowth , dense oak , sage , service , maple and buck brush. Land affords good grass for grazing purposes.

	N.0° 01'W., bet. secs. 26 and 27
	Over mountainous land draining W., through dense undergrowth of choke cherry and sage brush.
	Ascend from head of ravine over land facing S.
1.00	Leave choke cherry undergrowth , enter dense sage brush bears E. and W.
4.50	Spur , 50 ft. above sec. cor., projects W.
	Descend
5.00	Enter scattering spruce timber and dense maple undergrowth bears E. and W.
12.10	Bottom of ravine and stream , 3 lks. wide , 2 ins. deep, good water , 175 ft. below spur , course SW.
	Ascend.
13.35	Leave spruce timber , bears E. and W.
18.30	Spur , 125 ft. above ravine , projects SW.
	Descend gradually over NW. slope.
20.10	Enter dense choke cherry with oak and maple.
24.00	Leave maple undergrowth.
25.90	Bottom of ravine , 70 ft. below spur , course SW.
26.00	Leave choke cherry undergrowth , thence ascend through dense oak , sage and service brush.
34.00	Leave dense undergrowth , thence through scattering undergrowth.

chains	
40.00	270 ft. above ravine. Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor. with brass cap marked $S\ \frac{1}{4}\ 27 \mid S\ 26$ 1914 raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , W. of cor.
	June 9 , 1914
	June 16: At 7 h. 45 m. a. m. apparent time , I set off 39° 29' on the lat. arc ; 23° 21' N., on the decl. arc; and determine a meridian with the solar at the $\frac{1}{4}$ sec. cor. bet. secs. 26 and 27.
	Thence I continue
	N.0° 01'W., bet. secs. 26 and 27
	Gradually ascend over SW. slope.
52.00	Top of ridge and divide , 70 ft. above $\frac{1}{4}$ sec. cor., bears E. and W. Divide between Little Salt Creek and Deep Canyon.
	Gradually descend.
54.30	Enter aspen timber , bears E. and W.
58.50	Head of ravine , 100 ft. below spur , course E.
	Leave aspen timber , bears NE. and SW.
	Ascend
74.50	Spur , 140 ft. above ravine , projects E.
	Enter dense choke cherry undergrowth , bears NW. and SE.
	Descend over nearly E. slope.
77.75	Enter W. edge of aspen thicket , bears NW. and SE.
79.00	Leave aspen thicket , bears SW. and E.
80.00	50 ft. below spur.
	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 with brass cap marked

Subdivision of T.15 S., R.1 E.

chains

T 15 S S 22	R 1 E S 23
S 27	S 26

1914

from which

An aspen , 10 ins. diam., bears S.61°E., 210 lks. dist., marked T 15 S R 1 E S 26 B T

An aspen , 4 ins. diam.,bears S.3°W., 137 lks. dist., marked T 15 S R 1 E S 27 B T

No trees within limits in secs. 22 and 23

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

Land , mountainous , draining S. into Little Salt Creek on S. 52 chs. and N. into deep canyon on N. 28 chs.

Soil , generally a rich black loam mixed with gravel on moist , black loam sub-soil ; 1 st. rate.

Timber , scattering patches of aspen and some scattering spruce.

Undergrowth , dense sage , oak , service , buck , maple and choke cherry usually found in patches along the line. Land affords good grass for grazing purposes.

East , on a random line bet. secs. 23 and 26

40.00 Set temp. ¼ sec. cor.

79.90 Intersect N. and S. line 2 lks. N. of the true cor. point of secs. 23 , 24 , 25 and 26.

Thence

N.89° 59'W., on true line bet. secs. 23 and 26

Over mountainous land on S. side of Deep Canyon through aspen timber and undergrowth of choke cherry and service brush.

Gradually ascend.

4.00 Top of conglomerate sandstone ledge , 20 ft. high , bears N. and S. Leave aspen timber.

Subdivision of T.15 S.,R.1 E.

chains	
	Descend
6.00	Bottom of deep canyon on S. side of creek .
	Ascend over NE. slope.
17.00	Spur , 75 ft. above canyon , projects N.20°E.
	Enter scattering spruce and balsam fir timber and dense undergrowth of choke cherry , service and buck brush.
	Descend.
20.00	Enter aspen timber , bears N. and S.
22.00	Ravine , 75 ft. below spur , course N.
	Ascend abruptly over steep E. slope.
25.00	Leave aspen timber , bears N. and S.
33.00	Ascend more gradually over NE. slope.
39.95	300 ft. above ravine.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 23 ¼ S 26 1914
	from which
	A maple , 5 ins. diam.,bears N.34¾°E.,65 lks. dist., marked ¼ S 23 B T
	A maple , 4 ins. diam.,bears S.26½°E., 27 lks. dist., marked ¼ S 26 B T
43.40	Leave maple undergrowth , bears N. and S.
44.00	Leave choke cherry undergrowth , bears N. and S.
45.75	Top of ridge , 125 ft. above ¼ sec. cor., bears N. and S.
	June 16 : At this station I set off 23° 21'N., on the decl. arc ; and at apparent noon observe the sun on the meridian , the resutling lat. is 39° 39'
	Descend over W. slope of ridge through dense timber and undergrowth.
58.00	Bottom of ravine and stream , 2 lks. wide , 1 in. deep , 230 ft. below ridge , course N.
62.00	Leave timber , bears N. and S.

Subdivision of T.15 S.,R.1 E.

chains	
65.00	Top of spur , 90 ft. above ravine projects SE. for about 8 chs.
	Gradually descend over SW. slope.
71.60	Bottom of ravine , 40 ft. below spur , course SE.
	Ascend through dense choke cherry undergrowth at N. edge of aspen thicket.
79.90	The cor. of secs. 22 , 23 , 26 and 27 , 130 ft. above r ravine.
	Land mountainous , draining N.
	Soil , rich black loam and gravel on deep black loam sub-soil ; 1 st. rate.
	Timber , aspen , spruce and balsam fir .
	Undergrowth , choke cherry , oak , service, maple , buck and sage brush. Land produces an abundant growth of grass , good for grazing purposes.
	June 16 , 1914.

June 17 : At 7 h. 30 m. a. m. apparent time , I set off 39° 30' on the lat. arc ; 23° 24'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 22 , 23 , 26 and 27.

	Thence I run
	N.0° 01'W., bet. secs. 22 and 23.
	Over mountainous land , through dense undergrowth of choke cherry , oak , service and sage brush.
	Ascend across head of ravine onto ridge.
12.00	Top of ridge , 80 ft. above sec. cor., bears NE. and SW.
	Gradually descend over nearly W. slope.
22.50	Spur , 172 ft. below ridge , projects NW.
	Descend abruptly over NW. slope.
23.90	Enter scattering spruce timber , bears E. and W.
	Descend over conglomerate sandstone ledge.
34.00	Head of ravine , drains NW.
	Thence over nearly W. slope.
40.00	580 ft. below top of spur.

Subdivision of T.15 S.,R.1 E.

chains	
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 22 $\frac{1}{4}$ | S 23 1914 from which A spruce , 5 ins. diam., bears N.68$\frac{1}{4}$°E.,35 lks. dist.,marked $\frac{1}{4}$ S 23 B T A spruce , 6 ins. diam., bears S.8$\frac{1}{4}$°W.,135 lks. dist.,marked $\frac{1}{4}$ S 22 B T
40.50	Leave timber , bears E. and W.
	Enter dense oak and service brush.
52.50	Spur , 50 ft. above $\frac{1}{4}$ sec. cor., projects NW.
	Descend abruptly.
56.00	Enter dense maple and choke cherry undergrowth , leave sage brush.
56.50	Ravine , 140 ft. below spur , course NE.
	Gradually ascend.
59.00	Spur , 20 ft. above ravine , projects NE.
	Descend abruptly into Deep Canyon.
60.00	Enter dense spruce and balsam fir timber with dense undergrowth , bears E. and W.
74.50	Bottom of Deep Canyon and creek , 15 lks. wide , 4 ins. deep, good water , 400 ft. below spur , course N.50°W.
	Leave timber , ascend through dense undergrowth of oak brush.
80.00	100 ft. above canyon.
	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 with brass cap marked T 15 S | R 1 E S 15 | S 14 S 22 | S 23 1914 from which An oak , 5 ins, diam., bears N.46$\frac{3}{4}$°E.,22 lks.

chains	
	dist., marked T 15 S R 1 E S 14 B T
	An oak , 4 ins. diam., bears S.47¼°E.,33 lks.
	dist.,marked T 15 S R 1 E S 23 B T
	An oak , 4 ins. diam.,bears S.22°W.,45 lks.
	dist.,marked T 15 S R 1 E S 22 B T
	An oak , 5 ins. diam.,bears N.42°W., 24 lks.
	dist.,marked T 15 S R 1 E S 15 B T
	Land , rough broken mountains with steep slopes of ridges draining into Deep Canyon.
	Soil , generally gravelly and rocky mixed with some rich black loam on gravelly and black loam sub-soil ; 3 rd. rate.
	Timber scattering patches of spruce , balsam fir and some aspen.
	Undergrowth , dense oak , choke cherry , service , sage and buck brush. Land affords an abundant growth of rich grass , good for grazing purposes.

	S.89° 59'E., on a random line bet. secs. 14 and 23.
40.00	Set temp. ¼ sec. cor.
79.85	Interscet N. and S. line , 7 lks. N. of the cor. of secs. 13 , 14 , 23 and 24.
	Thence
	N.89° 56'W., on true line bet. secs. 14 and 23.
	Over mountainous land through dense undergrowth of choke cherry undergrowth.
	Gradually ascend over E. slope of high divide.
8.00	Leave choke cherry undergrowth and enter dense sage and scattering oak and service brush
	Thence over rolling top of mountain ridge., bears NW. and SE. gradually ascending.
26.00	Top of ascent , 50 ft. above sec. cor.,bears NW. and SE.
	Gradually descend.
32.70	Leave mountain top , bears N. and S..
	Descend abruptly over rocky SW. slope through scattering scrub cedar and undergrowth of mahogany , oak and

chains

service brush.

39.60 190 ft. below top of ridge. The point for the ¼ sec. cor. will fall on conglomerate sandstone ledge where cor. cannot be set., therefore at this point

Set an iron post , 3 ft. long , 1 in. in dia., 6 ins. in the ground and 18 ins. in a mound of stone and earth , 4 ft. base , 1½ ft. high , for witness cor. to the ¼ sec. cor., with brass cap marked

T 15 S
R 1 E
S 14
WC ¼ ——————
S 23
1914

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

Note: On account of underlying rock , I am unable to set post more than 6 ins. in the ground.

June 17 .: At this cor. I set off 23° 23' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 30'.

39.90 Top of conglomerate sandstone ledge , bears N. and S.

Descend abruptly over series of ledges and W. slope of high mountain.

39.92½ Point for ¼ sec. cor. on ledge where cor. cannot be set.

No. cor. set at this point.

50.00 Leave ledges , bear. N. and S.

Thence descend through dense undergrowth of oak brush.

71.70 Bottom of ravine , 500 ft. below ¼ sec. cor., course S.

Thence over land sloping nearly S. on N. side of Deep Canyon creek.

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

Land , rolling and rough mountains.

E. 32.70chs. rolling mountainous land on E. and W. slopes of divide between Deep Canyon and Chicken Creek Canyon.

W. 47.15 chs. rough broken land on W. slope of divide.

Soil , generally gravelly and rocky with considerable outcropping of surface rock ; 4 th. rate.

Subdivision of T.15 S.,R.1 E.

chains

Timber , some scrub cedar and pinon.
Undergrowth , sage , choke cherry , oak and service brush. Some mahogany on W. slope. Land affords an abundant growth of rich grasses , good for grazing purposes.

June 17 , 1914

June 22: At 8 h. 15 m. a. m. apparent time I set off 39° 30' on the lat. arc ; 23° 28'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 14 , 15 , 22 and 23.

Thence I run

N.0° 01'W., bet. secs. 14 and 15

Over mountainous land draining S. through dense undergrowth of oak , choke cherry and sage brush.

Gradually ascend over S. slope.

17.00 Spur , 100 ft. above sec. cor., projects SW.

Enter maple undergrowth with oak and choke cherry.

Descend over NW. slope.

28.50 Ravine , 75 ft. below spur , course SW.

Ascend over S. slope of ridge and divide.

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

S 15 ¼ | S 14

1914

from which

An oak , 4 ins. diam.,bears East , 14 lks. dist.,marked ¼ S 14 B T

An oak , 4 ins. diam., bears S. 54°W., 12 lks. dist., marked ¼ S 15 B T

47.50 Top of ridge and divide between Deep Canyon and Chicken Creek Canyon , 140 ft. above ¼ sec. cor. and 220 ft. above ravine , bears NW. and SE. The highest point in this tp. bears NW. about 30 chs. A low saddle in divide bears SE. about 10 chs.

Subdivision of T.15 S.,R.1 E.

chains

Descend abruptly over NE. slope through dense oak and maple brush.

61.00 Ravine , 160 ft. below divide , course E.

Ascend.

72.35 Spur , 125 ft. above ravine , projects E.

Descend abruptly over NE. slope.

80.00 90 ft. below spur.

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

T 15 S S 10	R 1 E S 11
S 15	S 14

1914

from which

An oak , 4 ins, diam., bears N.55½°E., 40 lks. dist., marked T 15 S R 1 E S 11 B T.

No tree within limits in sec. 14

A maple , 4 ins. diam., bears S.23½°W., 45 lks. dist.,marked T 15 S R 1 E S 15 B T

A maple , 4 ins. diam.,bears N.64½°W., 11 lks. dist.,marked T 15 S R 1 E S 10 B T.

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

Land , rough mountainous with a S. exposure on S.47.50 chs and NE. exposure on N. 32.50 chs.

Soil , light , moist , warm rich black loam and decayed vegetation mixed with gravel on stony and black loam sub-soil ; 3 rd. rate.

Timber, a few scattering aspen and spruce.

Undergrowth , dense oak , sage , maple , choke cherry and service brush. Very dense in places. Good grass for grazing purposes.

June 22: At this sec. cor.I set off 23° 27' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 31'.

chains	
	The line bet. secs. 11 and 14 was run on June 22 , but an error in alinement and measurement was made and on July 22 , I re-run this line as follows:
	July 22: At 8h. a. m. apparent time , I set off 39° 31' on the lat. arc ; 20° 23' N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 10 , 11 , 14 and 15.
	Thence I run
	S.89° 56'E., on a random line bet. secs. 11 and 14
40.00	Set temp. ¼ sec. cor.
79.81	Intersect N. and S. line 10 lks. S. of the cor. of secs. 11 , 12 , 13 and 14.
	Thence
	West , on true line bet. secs. 11 and 14.
	Over rough mountainous land through scattering cedar , pinon , mahogany and spruce timber and undergrowth of sage and buck brush.
	Ascend abruptly over E. slope of ridge.
8.50	Top of ridge spur , 250 ft. above sec. cor., bears N.and S.
	Descend.
16.80	Ravine , 90 ft. below ridge , course N.
	Ascend abruptly.
19.20	Top of E. edge of wide mountain ridge , 72 ft. above ravine bears N. and S.
	Gradually descend.
23.00	Leave scattering cedar , pinon and spruce timber , bears N. and S.
28.30	Enter dense undergrowth of oak brush , bears N. and S.
29.90	Leave rolling mountain top , bears N. and S.
	Descend abruptly over conglomerate ledge , 50 ft. high.
33.80	Base of ledges , bears N. and S.
	Thence descend over steep W. slope of mountain through very dense oak and buck brush.
39.90½	370 ft. below top of ledge.

Subdivision of T.15 S.,R.1 E.

chains	
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 11 ¼ S. 14 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Cor. stands in dense brush on steep W. slope of high ridge.
	Continue steep descent.
51.20	Bottom of ravine , 310 ft. below ¼ sec. cor., course NW.
	Enter maple and choke cherry undergrowth with oak and buck brush.
	Ascend.
55.55	Spur , 45 ft. above ravine , projects NW.
	Descend abruptly over W. slope.
65.80	Bottom of ravine , 315 ft. below spur , course N.
	Ascend abruptly 330 ft. to.
79.81	The cor. of secs. 10 , 11 , 14 and 15.
	Land , rough mountains with steep E. and W. slopes of ridges into ravines.
	Soil , light , warm , moist black loam and decayed vegetation mixed with gravel and rocks on stony and gravelly sub-soil ; 4 th. rate.
	Timber , some scattering cedar , pinon , spruce and mohogany on E. 23 chs.
	Undergrowth , dense oak , sage , maple , buck and service brush. Good grass for grazing purposes.
	July 22: At this sec. cor. I set off 20° 21'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat.is 39° 31'.

	July 23: At 8 h. a. m. apparent time , I set off 39°31' on the lat. arc ; 20° 12'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs.

Subdivision of T.15 S.,R.1 E.

chains	
	10 , 11 , 14 and 15
	Thence I run
	N.0°01'W., bet. secs. 10 and 11
	Over rough mountainous land draining NE., through dense undergrowth of oak , maple , service and buck brush.
	Gradually descend.
4.40	Spur , 25 ft. below sec. cor., projects NE.
	Descend abruptly over NW.. slope.
16.86	Bottom of ravine , 360 ft. below spur , course NE.
	Ascend aver SE. slope.
17.55	Spur , 20 ft. above ravine , projects NE.
	Descend NW. slope.
19.15	Bottom of ravine and small stream, 1 lk. wide , 1 in. deep , course E. 50 ft. below spur.
	Ascend over nearly S. slope.
34.35	Spur , 415 ft. above ravine , projects NE.
	Gradually descend over top of spur.
37.00	Descend abruptly over NW. slope.
39.28	Ravine , 60 ft. below spur , course NE
	Thence gradually ascend over land sloping nearly E.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S ½ 10 | S 11 19 | 14
	from which
	An oak , 4 ins. diam.,bears S.3° E., 57 lks. dist.,marked ¼ S 11 B T
	A maple , 4 ins. diam.,bears S.16½°W., 58 lks. dist.,marked ¼ S 10 B T
46.00	Spur , 25 ft. above ravine , projects NE.
	Descend NW. slope of spur.
54.93	Ravine , 330 ft. below spur , course N.50°E.
	Ascend SE. slope of spur over slide rock and broken ledges.
67.15	Top of spur , 265 ft. above ravine , projects NE.

Subdivision of T.15 S.,R.1 E.

chains	
	Descend over NE. slope of spur.
73.70	Ravine , 90 ft. below spur , course SE
	Ascend.
79.70	Top of spur near junction of ridge , 120 ft. above ravine , projects S.80°E.
	Gradually descend.
80.00	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 , with brass cap marked.

T 15 S S 3	R 1 E S 2
S 10	S 11

1914

from which

An oak , 3 ins. diam., bears S.16½°E., 50 lks. dist.,marked T 15 S R 1 E S 11 B T

An oak , 3 ins. diam.,bears N,59½°W., 35 lks. dist.,marked T 15 S R 1 E S 3 B T.

No trees within limits in secs. 2 and 10 , dig pits , 18 x 18 x 12 ins., in each sec., 5½ ft. dist ., raise a mound of earth , 4 ft. base , 2 ft. high , W. of cor.

Land , rough broken mountains with a general NE. exposure and with steep NW. and SE. slopes of ridges into ravines.

Soil , light , dry , fine , warm black loam mixed with gravel and rocks on black loam and stony sub-soil ; 3 rd. rate.

No timber.

Undergrowth , dense oak , maple , sage , service and buck brush. Good grass for grazing purposes.

I was enroute between transit stations at noon , observations for lat. were impossible.

East , on a random line bet. secs. 2 and 11

40.00	Set temp. ¼ sec. cor.
79.80	Intersect N. and S. line 9 lks. N. of the cor. of secs. 1 , 2 , 11 and 12

chains	
	Thence
	N.89° 56'W., on true line bet. secs. 2 and 11
	Over rough broken mountains , through scattering cedar , pinon and mohogany timber and undergrowth of buck , oak , service and sage brush.
	Descend abruptly over SW. slope over broken conglomerate sandstone ledges into Chicken Creek Canyon.
26.50	Bottom of canyon and leave all timber and undergrowth , 600 ft. below sec. cor., bears NW. and SE
	Thence over open land in bottom of canyon.
33.80	Enter dense maple , choke cherry , and oak brush and cottonwood timber.
35.10	Chicken Creek , 15 lks. wide , 4 ins. deep , good water , course NW.
	Leave maple undergrowth and cottonwood timber , thence ascend over NE. slope through dense oak , service and sage brush.
39.90	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor.,with brass cap marked
	S 2 / $\frac{1}{4}$ / S 11 / 1914
	dig pits , 18 x 18 x 12 ins., E. and W. of post , 3 ft. dist., raise a mound of earth , $3\frac{1}{2}$ ft. base , $1\frac{1}{2}$ ft. high , N. of cor.
48.65	Top of spur , 220 ft. above Chicken Creek , projects N.
	Descend abruptly over W. slope.
57.60	Bottom of large ravine , 200 ft. below spur , course N.
	Ascend abruptly.
62.75	Spur , 120 ft. above ravine , projects SE.
	Descend over SW. slope
64.65	Ravine , 50 ft. below spur , course SE
	Ascend over NE. and N. slopes , 150 ft. to ravine
79.80	The cor. of secs. 2 , 3 , 10 and 11
	Land , rough broken mountains draining N. and SW. into Chicken Creek.

chains.

Soil ; rocky and gravelly of red sandstone formation on rocky sub-soil ; 4 th. rate.

Timber , some scrub cedar , pinon and cottonwood.

Undergrowth , dense oak , maple , service , buck and mohogany.

July 23 ,1914.

July 24: For solar observation , see retracement of the S. bdy. sec. 35 , T.14 S.,R.1 E.

Knowing that closing cors. will be necessary upon the N. bdy. of the tp., I run

N.0°01'W., on true line bet. secs. 2 and 3.

Over rough mountainous land draining N. and E., through dense undergrowth of oak ,service , sage and buck brush.

Gradually descend over NE. slope of ridge.

21.58 Ravine , 280 ft. below sec cor., course SE.

Ascend along nearly E. slope.

24.70 Top of spur , projects NE.

Descend gradually over N. slope towards Chicken Creek.

32.60 Descend abruptly over N. slope into canyon.

40.00 On steep N. slope on S. side of Chicken Creek canyon 410 ft. below top of spur.

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

S ¼ 3 | S 2

1914

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

48.40 Bottom of Chicken Creek canyon and creek , 15 lks. wide , 4 ins. deep , good water , 155 ft. below ¼ sec. cor., course W.

Ascend over S. slope of canyon.

Subdivision of T.15 S.,R.1 E.

chains	
49.48	Abandoned road in canyon , bears E. and W.
57.70	Begin steep ascent over limestone ledges and loose shale rock.
67.00	Ravine , course SW.
	Ascend abruptly.
68.25	Intersect N. bdy. of the tp. 14.69 chs. N.89° 55'E. of the $\frac{1}{4}$ sec. cor. on the S. bdy. sec. 35 , T.14 S.,R. 1 E., heretofore described. Cor. falls on steep slope and shale rock ledges where cor. cannot be. set. Being unable to set cor. on line within 10 chs. of the true cor. point , I run N.89° 55'E., 6.15 chs., at which point

Set an iron post , 3 ft. long , 2 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth 4 ft. base , 1 ft. high , for witness cor. to the closing cor. of secs. 2 and 3 , with brass cap marked

T 14 S R 1 E
S 35 | S 36
WCCC
S 3 | S 2
T 15 S
1914

raise a mound of stone , 2 ft, base , $1\frac{1}{2}$ ft. high , S. of cor.

Note: On account of natural obstacles , I am unable to set post more than 12 ins. in the ground.

Cor. now stands near top of spur projecting SE.

Land , rough mountains draining N. and S. into Chicken Creek.

Soil , gravelly and rocky with considerable loose shale rock of limestone formation on gravelly and rocky sub-soil ; 4 th. rate.

No timber.

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

Considerable grass , good for grazing purposes.

July 24 , 1914

Subdivision of T.15 S.,R.1 E.

chains	
	June 10: At 7h. 30m. a. m. apparent time I set off 39° 29' on the lat. arc ; 23° 00'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 26 , 27 , 34 and 35.
	Thence I run
	West , on sectional correction line bet. secs. 27 and 34.
	Over mountainous land draining W., through dense undergrowth of choke cherry.
	Gradually descend from head of ravine over land sloping nearly N.
3.00	Enter spruce , balsam fir and aspen timber with dense undergrowth of choke cherry , maple , buck and sage brush.
5.00	Leave timber , enter exceptionally dense undergrowth of maple , bears NE. and SW.
11.00	Leave maple undergrowth , enter dense oak brush , bears NE. and SW.
	Descend abruptly.
20.30	Bottom of ravine and creek , 3 lks. wide , 2 ins. deep, good water , 275 ft. below sec. cor., course S.65°W.
	Ascend
25.35	Spur , 40 ft. above ravine , projects S.15°W.,4 chs.
	Descend 60 ft. to
28.50	Ravine , drains S.10°W. Enter scrub cedar and mahogany timber , bears N. and S. Leave dense undergrowth of sage brush , thence through more scattering brush.
	Ascend E. slope of spur.
37.90	Spur , 120 ft. above ravine , projects S. Enter scattering pinon pine timber , bears N. and S.
	Descend.
40.00	55 ft. below top of spur on W. slope.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for $\frac{1}{4}$ sec. cor., with brass cap marked

chains	
	$\frac{S\ 27}{\frac{1}{4}}$ / $\frac{S\ 34}{1914}$
	from which
	A mahogany , 5 ins. diam.,bears N.32½°E., 25 lks. dist.,marked ¼ S 27 B T
	A mahogany , 5 ins. diam.,bears S.23¾°E., 27 lks. dist.,marked ¼ S 34 B T
	Note: On account of natural obstacles , I am unable to set post in the ground.
41.20	Ravine , 25 ft. below ¼ sec. cor., course S.
	Ascend E. slope of spur.
47.50	Spur , 90 ft. above ravine , projects S.30°W.
	Descend.
57.00	Ravine , 130 ft. below spur , course S.35°W.
	Ascend
61.50	Spur , 90 ft. above ravine ,projects S.20°W.
	Enter dense cedar , pinon , and mahogany timber bears with spur. Descend.
68.30	Ravine , 200 ft. below spur , course S.20°W.
	Ascend abruptly.
73.70	Top of ridge , 130 ft. above ravine , projects S,10°W.
	June 10: At this station , I set off 23° 00'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 28'.
75.70	Descend abruptly over W. face of ridge over series of small conglomerate sandstone ledges , bearing N. and S.
79.65	Top of ledge , 30 ft. high , bears E. and S,
80.00	290 ft. below spur and on steep W. slope.
	Set an iron post , 3 ft. long , 2 ins. in dia.,12 ins. in the ground and 12 ins. in a mound of stone and earth , 4 ft. base , 1 ft. high , for cor. of secs. 27 , 28 , 33 and 34 , with brass cap marked

chains

T 15 S | R 1 E	
S 28	S 27
S 33	S 34

1914

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

Note: On account of natural obstacles , I am unable to set post more than 12 ins. in the ground.

Land , rough broken mountains with steep E. and W. slopes of ridges into ravines draining S.

Soil ; gravelly and rocky of red conglomerate sandstone formation on rocky sub-soil ; 4 th. rate.

Timber , scrub cedar , pinon and mahogany with some spruce , balsam fir and aspen on E.15 chs.

Undergrowth , dense oak , service , buck , maple , choke cherry and chaparral.

South , on a random line bet. secs. 33 and 34

40.00 Set temp. ¼ sec. cor.

82.10 Intersect 3 rd. Standard Parallel South , 5 lks. S.87° 54' W. of the standard cor. of secs. 33 and 34 heretofore described.

Thence

N.0°02'W., on true line bet. secs. 33 and 34

Over rough mountainous land draining S., through dense undergrowth of sage and oak brush.

Ascend abruptly over steep SE. slope of ridge spur.

20.10 Top of ridge spur , 300 ft. above sec. cor., projects SW.

Descend over NW. slope

35.60 Ravine , 90 ft. below spur , course SW.

Ascend abruptly 120 ft. over S. slope to

42.10 Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for ¼ sec. cor., with brass cap marked

chains	
	S 33 ¼ | S 34 ✓
	1914
	from which
	A cedar , 9 ins. diam.,bears S.50°E., 50 lks. dist.,marked ½ S 34 B T
	A cedar , 8 ins. diam.,bears S.87½°W., 46 lks. dist.,marked ½ S 33 B T.
	Note: On account of natural obstacles , I am unable to set post in the ground.
	Enter scattering scrub cedar timber , continue steep ascent.
52.00	Top of ridge and divide between N. and S. forks of Little Salt Creek , 100 ft. above ¼ sec. cor., bears E. and W.
	Descend over N. slope.
56.00	Descend abruptly over N. slope over series of red conglomerate sandstone ledges , bears E. and W.
63.85	Bottom of canyon and stream , 4 lks. wide , 2 ins. deep, good water , 460 ft. below ridge , course W.
	Ascend over rocky SW. slope at base of ledges bearing N. and S.
82.10	The cor. of secs. 27 , 28 , 33 and 34.
	Land rough mountainous with steep N. and S. slopes of ridges into ravines draining W.
	Soil , gravelly and rocky of red conglomerate sandstone formation ; on rocky sub-soil ; 4 th. rate.
	Timber , some scattering cedar and pinon.
	Undergrowth , dense oak , sage , service and chaparral.
	June 10 , 1914.

	June 18 :At 8 h. 20 m. a. m. apparent time , I set off 39° 29' on the lat. arc ; 23° 25'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

chains	
	N.0°02'W., bet. secs. 27 and 28
	Over broken mountainous land draining SW., through dense undergrowth of oak , service sage and buck brush.
	Ascend over Land facing SW. and W.
19.00	Top of ridge , 350 ft. above sec. cor., bears NE. and SW.
	Descend over broken NW. slope.
39.80	Ravine , 80 ft. below ridge , course SW.
	Ascend abruptly over S. slope of spur.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked

S $\frac{1}{4}$ 28 | S 27

1914

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

47.00	Spur , 160 ft. above ravine , projects SW.
	Thence along steep broken W. slope .
65.00	Top of ridge and divide between Little Salt Creek and Deep Canyon , bears NW. and SE. Leave dense oak brush enter choke cherry undergrowth and scattering patches of oak brush. Low saddle in divide bears NW. about 10 chs.
67.10	Leave choke cherry undergrowth , enter dense sage and oak brush.
67.20	Ravine which heads about 9 chs. SE. drains NW.
	Thence over land sloping almost W. along E. side of ravine.
80.00	Set an iron post , 3 ft. long , 2 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth 4 ft. base , 1 ft. high , for cor. of secs. 21 , 22 , 27 and 28 , with brass cap marked

T 15 S | R 1 E
S 21	S 22
S 28	S 27

1914

from which

An oak , 4 ins. diam., bears S. 60°E., 15 lks. dist.,marked T 15 S R 1 E S 27 B T

chains	
	A maple , 4 ins. diam.,bears N.17°W., 27 lks. dist.,marked T.15 S.,R.1 E S 21 B T
	No trees within limits in secs. 22 and 28.
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	Note : On account of underlying rock , I am unable to set post more than 12 ins. in the ground.
	Land , mountainous with S. exposure on S.65 chs. and N. exposure on N.15 chs. Country drains to the West.
	Soil ; generally light , warm red sand with considerable gravel and rocks on gravelly and rocky sub-soil ; 4 th. rate.
	No timber.
	Undergrowth , oak , service , sage , choke cherry and maple brush.
	Note: I was enroute between transit stations at noon ; observations for lat. were impossible.

	East , on a random line bet.secs. 22 and 27.
40.00	Set temp. ½ sec. cor.
79.98	Intersect N. and S. line 3 lks. N. of the cor. of secs. 22 , 23 , 26 and 27.
	Thence
	N.89° 59'W., on true line bet. secs. 22 and 27
	Over mountains land draining N. through dense undergrowth of choke cherry and sage brush
	Ascend E. slope of ridge.
6.50	Top of ridge , 60 ft. above sec. cor., bears NE. and SW.
	Leave choke cherry undergrowth , thence descend through dense undergrowth of sage and scattering service brush.
11.50	Enter scattering spruce and cedar timber , bears N. and S.
	Descend abruptly over W. slope of ridge.
16.70	Top of conglomerate sandstone ledge , 20 ft. high , Bears NE. and SW.
17.00	Base of ledge.

Subdivision of T.15 S.,R.1 E.

Chains	
30.00	Enter dense maple undergrowth , bears NE. and SW.
34.90	Bottom of ravine , 620 ft. below top of ridge , course NW.
	Ascend 145 ft. to.
39.99	Top of spur , projects N.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for ¼ sec. cor., with brass cap marked
	S 22 ¼ S 27 1914
	from which
	An oak , 4 ins. diam., bears S.5°W., 75 lks. dist.,marked ¼ S 27 B T
	A spruce , 6 ins. diam.,bears N.48°W., 14 lks. dist.,marked ¼ S 22 B T
	Note: On account of natural obstacles , I am unable to set post in the ground.
	Thence over land sloping N.
48.00	Leave timber and maple undergrowth , enter dense oak and sage brush.
	Descend abruptly.
59.00	Leave oak and sage brush , enter dense choke cherry undergrowth , bears N. and S.
61.40	Bottom of ravine , 250 ft. below ¼ sec. cor., course NW.
	Ascend.
63.00	Leave choke cherry undergrowth , enter dense oak , sage and maple undergrowth.
70.60	Top of spur , 140 ft. above ravine , projects N.
	Descend over W. slope.
73.30	An old prospect hole bears N. 40 lks.
79.98	100 ft. below spur . The cor. of secs. 21 , 22 , 27 and 28.
	Land , mountainous draining N. with steep E. and W. slope of ridges and spurs.

Subdivision of T.15 S.,R.1 E.

chains

Soil ; gravelly , rocky and some rich black loam on gravelly and rocky sub-soil ; 4 th. rate.

Timber , spruce , balsam fir and some aspen and cedar found in scattering patches along the line.

Undergrowth , dense oak , sage,choke cherry , service , maple and buck brush. Some grass , good for grazing purposes.

June 18 , 1914.

June 19; Storm of rain prevented field work this day.

June 20: At 8h. 30 m. a. m. apparent time , I set off 39° 30'N. on the lat. arc ; 23° 27'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs.21 , 22 , 27 and 28.

Thence I run

N.0° 02'W., bet. secs. 21 and 22.

Over mountainous land draining N., through aspen timber and dense undergrowth of choke cherry and maple.

1.60 Leave aspen timber , bears E. and W. Thence gradually descend along W. slope through dense undergrowth of sage and oak brush.

10.50 Ravine , 60 ft. below sec. cor., course NE.

Ascend over SE. slope of high mountain ridge through dense undergrowth of oak , maple , service and sage brush.

38.20 Top of high spur , 300 ft. above ravine , projects E.

Thence along E. slope.

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

S 21 | S 22
¼
1914

from which

A maple , 4 ins. diam.,bears N.75½°E., 27 lks. dist.,marked ¼ S 22 B T

Subdivision of T.15 S.,R.1 E.

chains

An oak , 4 ins. diam.,bears N.17°W., 22 lks. dist.,marked ¼ S 21 B T

48.00 Descend abruptly over N. slope into ravine.

58.00 Bottom of ravine , 250 ft. below ¼ sec. cor., course N.80° Ascend abruptly over S. slope.

70.00 Top of spur , 160 ft. above ravine , projects NE. Thence descend over precipitous N. face of mountain into Deep Canyon.

80.00 350 ft. below spur on steep N. slope in dense oak brush. Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for cor. of secs. 15 , 16 , 21 and 22 , with brass cap marked

T 15 S S 16	R 1 E S 15
S 21	S 22

1914

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

Land , rough mountains draining N. into Deep Canyon. Soil generally gravelly and rocky on gravelly sub-soil ; 4 th. rate.

No timber.

Undergrowth , dense oak , sage , maple , service and choke cherry brush. Some grass , good for grazing purposes.

S.89° 59'E., on a random line , bet. secs. 15 and 22.

40.00 Set temp. ¼ sec. cor.

80.08 Intersect N. and S. line 18 lks. S. of the cor. of secs. 14 , 15 , 22 and 23.

Thence

S.89° 53'W., on true line bet. secs. 15 and 22.

Over rough mountainous land through dense undergrowth of oak and service brush.

Descend over SW. slope into Deep Canyon.

Subdivision of T.15 S.,R.1 E.

chains	
5.00	Enter cotton wood timber , bears NW. and SE.
6.00	Bottom of canyon and creek , 15 lks. wide , 3 ins. deep, good water , 120 ft. below sec. cor., course NW.
7.50	Leave cottonwood timber , bears NW. and SE.
	Thence ascend over land sloping nearly N., through dense spruce , balsam fir and aspen timber and choke cherry undergrowth.
30.00	Top of spur , 180 ft. above canyon , projects NW.
	Descend.
40.04	200 ft. below spur.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S 15 ¼ S 22 1914
	from which
	A mahogany , 10 ins. diam., bears N.68°E., 60 lks. dist.,marked ¼ S 15 B T
	A spruce , 6 ins. diam.,bears S.82°W., 56 lks. dist.,marked ¼ S 22 B T.
	June 20 : At this ¼ sec. cor., I set off 23° 27'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 30'.
43.00	Ravine , 70 ft. below ¼ sec. cor., course N.
	Leave timber , ascend abruptly over E. slope through dense undergrowth of oak , service , mahogany and buck brush.
46.50	Spur , 130 ft. above ravine , projects N.
	Descend abruptly over W. slope.
56.10	Bottom of ravine and stream , 2 lks. wide , 1 in. deep, good water , 310 ft. below spur , course N.
	Ascend abruptly through dense brush and over small ledges.
68.60	Top of spur , 320 ft. above ravine , projects NE.
	Thence gradually descend over steep rocky N. slope

Subdivision of T.15 S.,R.1 E.

chains	
80.08	225 ft. below spur. The cor. of secs. 15 , 16 , 21 and 22.
	Land , rough broken mountains draining N. on S. side of Deep Canyon.
	Soil , generally rocky and gravelly with some rich , moist , black loam sub-soil ; 3 rd. rate.
	Timber , considerable spruce , balsam fir and aspen on E. ½ mile and scattering cedar and mahogany along all of line.
	Undergrowth , dense oak , choke cherry , mohogany , service and sage brush.
	June 20 , 1914.
	July 16 : At 8 h. a. m. apparent time , I set off 39°30' on the lat. arc ; 21° 28'N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 15 , 16 , 21 and 22.
	Thence Irun
	N.0° 02'W., bet. secs. 15 and 16.
	Over rough mountainous land draining W., through dense undergrowth of oak , sage , service and buck brush.
	Descend abruptly over N. slope into Deep Canyon.
12.25	Bottom of Deep Canyon and creek , 15 lks. wide , 4 ins. deep , good water , 225 ft. below sec. cor., course N.70°W.
	Ascend abruptly over S. slope from canyon through scattering scrub timber and dense undergrowth.
31.00	Top of spur , 500 ft. above canyon , projects SW.
	Descend abruptly over NW. slope
37.00	Bottom of ravine , 175 ft. below spur , course SW.
	Ascend abruptly over SE. slope.
40.00	90 ft. above ravine.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor. with brass cap marked

S 16 | S 15
¼
1914

Subdivision of T.15 S.,R.1 E.

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	Continue steep ascent.
42.80	Top of spur , 65 ft. above ¼ sec. cor., projects S.20°E.
	Gradually descend.
45.50	Ravine , 30 ft. below spur , course E.
	Ascend.
46.30	Ledge , 40 ft. high , bears NE. and SW.
49.00	Thence gradually ascend over land sloping E. into large ravine to the E.
63.25	Ascend abruptly over S. slope.
80.00	700 ft. above the ¼ sec. cor. on S. slope near top of divide between Deep Canyon and Chicken Creek.
	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 , with brass cap marked

T 15 S | R 1 E
S 9	S 10
S 16	S 15

1914

from which

A mohogany , 10 ins. diam.,bears N.10½°E., 90 lks. dist.,marked T 15 S R 1 E S 10 B T

A spruce , 20 ins. diam.,bears S.6°10'E.,140 lks. dist.,marked T 15 S R 1 E S 15 B T.

A mohogany , 11 ins. diam.,bears S.72½°W., 391 lks. dist.,marked T 15 S R 1 E S 16 B T

A mohogany , 12 ins. diam.,bears N.66½°W., 305 lks. dist.,marked T 15 S R 1 E S 9 B T

Land , rough broken mountains with steep N. and S. slopes of ridges into Deep Canyon.

Soil , rocky on rocky sub-soil ; 4 th. rate.

Timber , scrub cedar , pinon and mohogany.

Undergrowth , dense oak , service , sage and maple.

July 16: At this sec. cor., I set off 21° 26'N., on the decl. arc ; and at apparent noon observe the sun on

chains	
	the meridian ; the resulting lat. is 39° 31'.

	N.89° 53'E., on a random line bet. secs. 10 and 15.
40.00	Set temp. ¼ sec. cor.
	Cease work.
	July 16 , 1914.
	July 17: At 7 h. a. m. apparent time , I set off 39° 31' on the lat. arc ; 21° 19'N., on the decl. arc ; and determine a meridian with the solar at the temp. ¼ sec. cor. bet. secs. 10 and 15.
	Thence I continue
	N.89° 53'E., on random line bet. secs. 10 and 15.
80.20	Intersect N. and S. line 14 lks. N. of the cor. of secs. 10 , 11 , 14 and 15.
	Thence
	S.89° 59'W., on true line bet. secs. 10 and 15.
	Over rough mountainous land draining N., through scatter-spruce and aspen timber and dense undergrowth of oak , maple , service and chaparral.
	Gradually ascend over land sloping nearly N.
30.50	Spur , 125 ft. above sec. cor., projects N.
	Descend abruptly.
34.50	Ravine , 125 ft. below spur , course N.
	Ascend abruptly over E. slope.
36.70	Spur , 60 ft. above ravine , projects N.
	Descend abruptly.
40.10	110 ft. below spur.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	$\frac{\text{S } 10}{\frac{1}{4}}$ / $\text{S } 15$ 1914
	from which
	A spruce , 6 ins. diam., bears N.14½°E., 4 lks. dist., marked ¼ S 10 B T

Subdivision of T.15 S.,R.1 E.

chains	
	A spruce , 4 ins. diam., bears S.71°E.,19 lks. dist.,marked ¼ S 15 B T
40.60	Ravine , 20 ft. below ¼ sec. cor., course N.
	Ascend abruptly over E. slope.
51.40	Spur , 350 ft. above ravine , projects N.
	Descend abruptly.
55.55	Ravine , 100 ft. below spur , course N.20°W.
	Gradually ascend along nearly N. slope.
64.90	Spur , 100 ft. above ravine projects N.
	Gradually descend.
68.20	Ravine , 75 ft. below spur , course N.
	Ascend NE. slope.
72.00	Enter dense spruce timber , bears N. and S.
75.00	Leave timber.
75.40	Top of ridge and divide between Deep Canyon and Chicken Creek Canyon , 100 ft. above ravine , bears NW. and SE.
	Descend over SW. slope 40 ft. to.
80.20	The cor. of secs. 9 , 10 , 15 and 16.
	Land,mountainous on steep N. slope of divide draining N. into Chicken Creek on E. 75.40 chs., and SW. slope draining S. into Deep Canyon on W. 4.80 chs.
	Soil , rich , moist , black loam mixed with gravel , on deep , moist , black loam sub-soil ; 2 nd. rate.
	Timber , spruce , balsam fir and some aspen.
	Undergrowth , dense oak , maple , service , choke cherry, sage and chaparral. Good grass for grazing purposes.
	July 17 : At this sec. cor., I set off 21° 16'N., onthe decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 31'.

	N.0° 02'W., bet. secs. 9 and 10
	Over mountainous land , through dense undergrowth of oak and service brush , and scattering spruce and mahogany timber.
	Ascend over S. slope of divide.

Subdivision of T.15 S.,R.1 E.

chains	
2.70	Top of ridge and divide between Deep Canyon and Chicken Creek Canyon , 35 ft. above sec. cor., bears N.80°W. and S.80°E.
	Leave mahogany timber.
	Descend abruptly over N. slope.
5.20	Enter dense spruce and balsam fir timber with choke cherr undergrowth , bears E. and W.
17.05	Leave timber , enter dense undergrowth of oak brush , bears NE. and SW.
18.95	Bottom of ravine , 450 ft. below divide , course NE.
	Ascend over SE. slope of ridge through dense undergrowth.
32.69	Spur , 330 ft. above ravine , projects NE.
	Descend abruptly over N. slope.
39.00	Enter spruce and balsam fir timber , bears NE. and SW.
	Leave dense oak brush.
40.00	150 ft. below spur.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked
	S 9 ¼ | S 10
	1914
	from which
	A spruce , 14 ins. diam., bears N.13½°E.,80 lks. dist., marked ¼ S 10 B T
	A spruce , 7 ins. diam.,bears N.28½°W., 44 lks. dist.,marked ¼ S 9 B T
52.15.	Bottom of ravine , 250 ft. below ¼ sec. cor., course NE.
	Leave spruce and balsam fir timber , enter dense under-growth of oak , service , maple and buck brush.
	Gradually ascend over SE. slope.
62.80	Point of spur , 49 ft. above ravine , falls NE.
	Cease work. Set flag.

July 17 , 1914.

July 27: At 7 h. 40 m. a. m. apparent time , I set off 39° 32' on the lat. arc ; 19° 20'N., on the decl. arc;

chains

and determine a meridian with the solar at the flag set at close of work July 17.

Thence I continue

N.0°02'W., bet. secs. 9 and 10

Descend abruptly over N. slope of spur , through dense undergrowth and scattering aspen timber.

69.00 Leave aspen timber , bears E. and W.

72.00 Bottom of ravine , 350 ft. below spur , course NE.

Ascend abruptly 100 ft. to

80.00 On SE. slope of ridge.in dense buck brush.

Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground for cor. of secs. 3 , 4 , 9 and 10 , with brass cap marked

T 15 S S 4	R 1 E S 3
S 9	S 10

1914

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

Land , mountainous , sloping and draining S. into Deep Canyon on S. 2.70 chs., and N.and NE. into Chicken Creek on N. 77.30 chs.

Soil ;gravelly , rocky , rich moist black loam and decayed vegetation on gravelly and black loam sub-soil ; 3 rd. rate,

Timber , scattering patches of spruce , balsam fir and aspen.

Undergrowth , dense oak , choke cherry , service , sage and buck brush. Considerable grass , good for grazing purposes.

N.89° 59'E., on a random line bet. secs. 3 and 10

40.00 Set temp. ¼ sec. cor.

80.24 Intersect N. and S. line , 5 lks. S. of the cor. of secs.

Subdivision of T.15 S.,R.1 E.

chains	
	2 , 3 , 10 and 11
	Thence
	S.89° 57'W., on true line bet. secs. 3 and 10
	Over mountainous land through scattering undergrowth of oak and service brush.
	Ascend land facing nearly E. on top of spur.
3.85	Top of ridge and junction of spur , bears N., S., and S. 80°E., 30 ft. above sec. cor.
	Descend over W. slope of ridge , throughdense undergrowth of oak brush.
19.30	Ravine , 310 ft. below ridge , drains N.
	Enter maple undergrowth , ascend E. slope of ridge.
32.30	Top of spur , 380 ft. above ravine , projects N.
	Leave dense undergrowth , descend abruptly over steep W. slope over loose slide rock and broken ledges.
38.35	Leave slide rock and broken ledges , enter dense oak and maple brush , bears N. and S.
40.00	Bottom of ravine ; 230 ft. below top of spur , course N. 30°W.
	Begin ascent over NE. slope.
40.12	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{S\ 3}{\frac{1}{4}}$ / $\frac{S\ 10}{1914}$
	from which
	An oak , 4 ins. diam.,bears S.9$\frac{1}{2}$°W., 47 lks. dist.,marked $\frac{1}{4}$ S 10 B T
	An oak , 4 ins. diam., bears N.14$\frac{1}{2}$°W., 10 lks. dist.,marked $\frac{1}{4}$ S 3 B T .
55.65	Spur , 170 ft. above ravine , projects N.
	July 27 :. At this station , I set off 19° 18'N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 32'

Subdivision of T.15 S , R.1 E.

Chains.	
	Descend over W.slope of spur.
65.65	Bottom of ravine,825 ft.below spur, course NE.
	Ascend over SE.slope of ridge.
80.24	300 ft.above ravine, the cor.of secs.3,4,9,and 10.
	Land, mountainous with E.and W.slopes of ridges and spurs into ravines which drain N.to Chicken Creek.
	Soil, gravelly and rocky, with some rich black loam on gravelly and rocky subsoil; 4th rate.
	Timber, some scattering spruce and cedars on both sides of line.
	Undergrowth, dense oak, sage, maple and buck brush.
	Considerable grass good for grazing purposes.
	Knowing that closing cors.are necessary on the N.bdy. of the Tp., I run
	N.0° 02'W.on true line bet.secs.3 and 4,
	Over rough mountainous land; through dense undergrowth of buck, oak, service, and sage brush.
	Ascend over SE.slope of ridge.
2.40	Top of ridge spur, 25 ft.above sec.cor., projects NE.
	Descend abruptly over N.slope of spur,through dense undergrowth and scattering spruce timber.
10.90	Ravine, 810 ft.below spur, course E. Ascend 50 ft.to
18.75	Low spur, projects E. Descend.
22.60	Ravine, 35 ft.below spur, course E.
	Ascend abruptly.
27.50	Top of steep ascent; thence gradually ascend over E. slope.
28.60	Spur, 135 ft.above ravine, projects E.
	Thence over broken land facing E.; gradually ascending.
40.00	Set an iron post, 3 ft.long, 1 in.in dia., 24 ins.in the ground for $\frac{1}{4}$ sec.cor., with brass cap marked

$$S\ \tfrac{1}{4}\ 4 \mid S\ 3$$

1914

Subdivision of T.15 S., R.1 E.

Chains.	
	dig pits 18 x 18 x 12 ins.N.and S.of post, 3 ft.dist.; raise a mound of earth 3½ ft.base, 1½ ft.high W.of cor.
40.50	Begin ascent over SE.slope.
48.50	Top of high ridge, 140 ft.above ¼ sec.cor., bears E.and W.
	Descend abruptly over steep N.slope into Chicken Creek Canyon.
68.00	Bottom of ravine, 640 ft.below top of ridge, course NE. Ascend.
70.00	Set point for closing cor.of secs.3 and 4.
	August 4: From temp. point for C.C. I continue my line N.0° 02'W.
70.02	Intersect N.bdy.of the Tp.13.20 chs.S.88°27'E.of the ¼ sec.cor.on the S.bdy.of sec.34 T.14 S., R.1 E.,heretofore described. At intersection,
	Set an iron post, 3 ft.long, 2 ins.in dia., 24 ins.in the ground, for closing cor.of secs.3 and 4, with brass cap marked

T 14 S | R 1 E
S 34 | S 35
C C
S 4 | S 3
T15S
1914

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

Land, mountainous, with a general N.drainage into Chicken Creek.

Soil, gravelly and rocky, with some rich black loam soil on rocky and sandy subsoil; 4th rate.

Timber, a few scattering spruce.

Undergrowth, dense oak, service, buck, sage, and some maple.

Some grass, good for grazing purposes.

Subdivision of T.15 S.,R.1 E.

chains	
	June 29:At 2 h. 20 m. p. m. apparent time , I set off 39° 29' on the lat. arc ; 23° 16'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 sectional correction line bet. secs. 28 and 33.
	Over rough mountainous land draining S., through scattering scrub cedar timber and dense undergrowth of oak , service and sage brush.
	Descend abruptly over W. slope.
4.30	Ravine , 90 ft. below sec. cor., course S.5°W.
	Ascend.
9.80	Spur , 120 ft. above ravine , projects S.
	Descend over W. slope.
20.20	Bottom of ravine , 300 ft. below spur , course S.25°W.
	Ascend over SE. slope.
35.80	Top of ridge spur , 250 ft. above ravine , bears NE. and SW.
	Descend over NW. slope.
38.60	Mouth of tunnel , 4 ft. wide , 6ft. high , bears S.10 lks.
40.00	120 ft. below ridge.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 28 / ¼ / S 33 / 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
44.90	Ravine , 110 ft. below ¼ sec. cor., course S.15°W.
	Gradually ascend.
48.30	E. edge of flat spur , 50 ft. above ravine , bears NE. and SW. Leave dense oak brush , thence across top of spur through dense sage brush.
53.00	Leave spur and enter scattering cedar and pinon timber , bears NE. and SW.

Subdivision of T.15 S.,R.1 E.

chains	
	Descend abruptly over W. slope.
56.80	Ravine , 80 ft. below spur , course SW.
	Ascend abruptly.
58.25	Low point , 50 ft. above ravine , falls S.
	Descend.
60.80	Ravine , 70 ft. below spur , course S.20°W.
	Ascend
62.95	Spur , 40 ft. above ravine , projects S.20°W.
	Thence gradually ascend over broken land sloping nearly S.
74.80	Salt spring , at head of ravine course S., bears S.5 lks.
	Leave cedar timber , bears NE. and SW.
	Ascend abruptly over steep E. slope.
79.00	Top of steep ascent , 110 ft. above spring , bears NE. and SW.
	Gradually ascend.
80.00	Set andiron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground for cor. of secs 28 , 29 , 32 and 33 m, with brass cap marked

T 15 S S 29	R 1 E. S 28
S 32	S 33

1914.

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

Land , rough broken mountains draining S.

Soil , gravelly , rocky and clay on hard dry red clay and gravelly sub-soil ; 4 th. rate.

Timber , scattering scrub cedar and pinon.

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

June 29 ,1914.

June 30: At 7 h. am apparent time , I set off 39° 29' on the lat. arc ; 23° 15'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

chains	
	South , on a random line bet. secs. 32 and 33.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
85.12	Intersect the standard cor. of secs. 32 and 33 on the S. bdy. of the tp. heretofore described.
	Thence
	North , on true line bet. secs. 32 and 33.
	Over rough broken mountainous land through scattering scrub cedar timber and undergrowth of oak , buck , service sage and mahogany.
	Gradually ascend over nearly W. slope.
12.20	Spur , 60 ft. above sec. cor.. projects SW.
	Thence across head of ravine draining SW.
17.00	Sandstone ledge on spur , at point of ridge from the E., projects SW.
	Descend abruptly
21.25	Ravine , 50 ft. below spur , drains W. Heads E. about 3 chs.
	Ascend 40 ft. to
23.20	Spur , projects W. old drag road , bears E. and W.
	Thence descend over broken land sloping N.
32.80	Leave mahogany timber , bears E. and W.
39.95	Bottom of ravine , 240 ft. below spur , course NW.
	Ascend abruptly.
42.05	Point of spur , 55 ft. above ravine , falls W.
	Descend abruptly.
45.12	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked S 32 | S 33 $\frac{1}{4}$ 1914 from which , A cedar , 16 ins. diam.,bears S.30°E., 72 lks. dist.,marked $\frac{1}{4}$ S 33 B T A cedar , 16 ins. diam.,bears N.82°W., 48 lks. dist.,marked $\frac{1}{4}$ S 32 B T.
45.50	Bottom of ravine , 50 ft. below spur , course at bend from NE. to S.5°W.

Subdivision of T.15 S.,R.1 E.

chains	
	Ascend abruptly over small ledges.
48.40	Top of steep ascent and S. side of flat spur , 90 ft. above ravine , bears NE. and SW.
	Thence through scattering cedar timber and dense undergrowth of sage brush across top of spur.
60.00	Leave spur , bears NE. and SW. Descend abruptly over NW. slope.
64.90	Bottom of ravine and stream , 2 lks. wide , 1 in. deep, alkali water , 125 ft. below spur , course SW.
	Ascend abruptly over S. slope.
69.00	Ascend more gradually.
81.20	Wire fence , bears E. and W. Leave timber.
83.00	Top of steep ascent , 450 ft. above ravine , bears NE. and SW. Gradually ascend.
85.12	The cor. of secs. 28 , 29 , 32 and 33.
	Land , rough broken mountains with steep N. and S. slopes into ravines draining SW.
	Soil , gravelly , rocky and sandy of red sandstone formation on gravelly and rocky sub-soil ; 4 th. rate.
	Timber , scrub cedar , pinon and mahogany.
	Undergrowth , dense oak , sage , buck and service brush.
	June 30: At this sec. cor., I set off 23° 13'E., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 29'.

	N.0° 03'W., bet. secs. 28 and 29
	Over mountainous land draining S., through dense undergrowth of oak , sage , service and chaparral.
	Gradually ascend.
3.00	Enter dense undergrowth of oak brush , bears E. and W.
15.73	Wire fence , bears E. and W.
18.35	Ridge spur , 230 ft. above sec. cor., bears NE. and SW.
	Gradually descend.
27.30	Ravine , 30 ft. below spur , course W. A spring of good water bears W. about 6 chs.

Subdivision of T.15 S.,R.1 E.

chains	
	Ascend.
33.30	Spur , 60 ft. above ravine , projects W.
	Gradually descend over nearly W. slope.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 29 ½ | S 28 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
41.00	Bottom of large ravine , 20 ft. below ¼ sec. cor., course SW.
	Thence ascend steep SE. slope of ridge overboulders and ledges.
48.75	A volcanic ledge , 100 ft. high , bears W. 1 ch.
52,38	Top of ledges , 340 ft. above ravine , bears NE. and SW.
	Continue steep ascent over S. slope through dense oak brush.
69.50	Top of ridge , 400 ft. above top of ledges , bears NE. and SW.
	Gradually descend.
73.00	Head of ravine , 30 ft.below ridge , drains W.
	Gradually ascend along W. slope of ridge.
80.00	Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground for cor. of secs. 20 , 21 , 28 and 29 , with brass cap marked T 15 S | R 1 E S 20 | S 21 S 29 | S 28 1914 raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	Land , rough broken mountains draining SW.
	Soil , rocky and gravelly of volcanic and sandstone formation , on rocky sub-soil ; 4 th. rate.
	Timber , a few scattering cedar on both sides of line.

Subdivision of T.15 S.,R.1 E.

chains.	
	Undergrowth , dense oak , sage , service and some maple. Some grass , good for grazing purposes.
	June 30 , 1914.
	July 1 :At 8 h. a. m. apparent time I set off 39° 30' on the lat. arc ; 23° 10'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
	East , on a random line bet. secs. 21 and 28
40.00	Set temp. ¼ sec. cor.
80.08	Intersect N. and S. line at the cor. of secs. 21 , 22 , 27 and 28.
	Thence
	West , on true line bet. secs. 21 and 28.
	Over mountainous land draining N., through dense undergrowth of sage brush.
	Gradually descend over W. slope.
3.15	Ravine , 25 ft. below sec. cor., course N.
	Enter dense choke cherry and maple brush. Ascend.
4.85	Low spur , projects N.
	Descend 30 ft. to
6.62	Ravine , near head , drains NE.
	Begin ascent over NE. slope of high ridge,
11.68	Enter dense undergrowth of maple , oak , service and choke cherry , bears NE. and SW.
30.10	Leave maple undergrowth , bears NE. and SW.
39.40	Top of ridge and divide between Little Salt Creek and Deep Canyon , 350 ft. ±. above ravine , bears NW. and SE. Leave dense undergrowth , thence over land sloping nearly S.
40.04	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high , for ¼ sec. cor., with brass cap marked

S 21
¼
S 28
1914

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Note: On account of natural obstacles , I am unable to set post in the ground.
41.10	Top of steep descent , bears NE. and SW.
	Descend abruptly over NW. slope through dense undergrowth.
46.90	Bottom of ravine , 120 ft. below top of descent , course SW. Thence ascend over SE. slope of high mountain ridge.
74.15	Top of high ridge , 340 ft. above ravine , bears N. and SW.
	Descend abruptly 130 ft. over W. slope of ridge to
80.08	The cor. of secs. 20 , 21 , 28 and 29.
	Land , rough mountainous draining N. into Deep Canyon on E. 39. 40 chs. and S. into Little Salt Creek on W. 40.68 chs.
	Soil , gravelly and rocky mixed with some light , moist black loam on gravelly and black loam sub-soil ; 3 rd. rate.
	Timber , a few cedar on both sides of line.
	Undergrowth , dense sage , oak , service , maple , buck and choke cherry undergrowth.

	N.0° 03'W., bet. secs. 20 and 21
	Over mountainous land draing SW., through dense undergrowth of oak , service , choke cherry , buck and sage brush.
	Gradually ascend along nearly W. slope of high ridge.
19.32	Ravine , drains SW.
	Ascend abruptly over S. slope through dense sage and oak brush.
29.40	Top of high ridge and divide between Little Salt Creek and Deep Canyon , 400 ft. above sec. cor., bears E. and W.
	July 1 : At this station , I set off 23° 09' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 30'
	Leave oak brush , thence descend over steep N. slope into Deep Canyon.

Subdivision of T.15 S.,R.1 E.

chains	
30.00	Enter scattering , spruce and balsam fir timber with choke cherry undergrowth , bears E. and W.
40.00	330 ft. below top of ridge. Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 20 ¼ | S 21 1914 from which A spruce , 8 ins. diam.,bears S.63°E., 8 lks. dist.,marked ¼ S 21 B T A spruce , 8 ins. diam., bears S.45°W., 4 lks. dist., marked ¼ S 20 B T
	Continue steep descent through dense timber.
48.00	Leave spruce timber near head of ravine draining NW., 225 ft. below ¼ sec. cor.
	Thence over land sloping nearly W. through dense oak , service and buck brush.
56.50	Top of spur , projects NW. Enter scrub cedar and pinon timber , descend abruptly over N. slope.
72.20	Bottom of ravine , 360 ft. below spur , course N.10°W.
	Thence over rocky land sloping nearly W.
79.50	Descend abruptly into canyon.
80.00	Set an iron post , 3 ft. long , 2 ins. in dia., 12 ins. in the ground and 12 ins. in a mound of stone and earths, 4 ft. base , 1 ft. high , for cor. of secs. 16 . 17 , 20 and 21 , with brass cap marked T 15 S R 1 E S 17 | S 16 S 20 | S 21 1914 from which A pine , 8 ins. diam.,bears N.54°E., 33 lks. dist., marked T 15 S R 1 E S 16 B T No tree within limits in sec. 20 A mchogany , 6 ins. diam.,bears S.74½°E.,19½ lks.

Subdivision of T.15 S.,R.1 E.

chains

dist,marked T.15 S R 1 E S 21 B T

A pinon , 8 ins. diam.,bears N.25½°W., 12½ lks. dist.,marked T 15 S R 1 E S 17 B T.

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

Note: On account of natural obstacles , I am unable to set posb more than 12 ins. in the ground.

Land , rough mountains , S. 29.40 chs. S. exposure , N. 50.60 chs. N. exposure forming S. wall of Deep Canyon.

Soil , generally gravelly and stony surface with rich , moist , black loam and decayed vegetation sub-soil ; 3.rd. rate.

Timber , spruce and balsam fir with scattering scrub cedar , pinon and mahogany on N. slope.

Undergrowth , dense oak , choke cherry , service , buck , sage and chaparral.

July 1.,1914

July 13 : For solar observation see line bet. secs. 17 and 20.

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

40.00 Set temp. ½ sec. cor.

July 13 : At this station , I set off 21° 53' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39°30'

80.10 Intersect N. and S. line , 5 lks. S. of the cor. of secs. 15 , 16 , 21 and 22

Thence

S.89° 58'W., on true line bet. secs. 16 and 21

Over rough broken mountainous land facing N. on S. wall of Deep Canyon , through dense undergrowth of oak , buck , service and sage brush.

Gradually ascend and descend across numerous small ridges and ravines.

Subdivision of T.15 S.,R.1 E.

chains	
10.00	Spur , about 125 ft. above sec. cor., projects N.
	Descend.
21.50	Bottom of ravine , 160 ft. below spur , course N.
	Ascend.
38.65	Spur , projects NW.
	Descend abruptly over W. slope.
40.05	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked
	S 16 / $\frac{1}{4}$ / S 21 / 1914
	raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , N. of cor.
	Continue steep descent.
46.10	Ravine , 250 ft. below spur , course N.25°W.
	Ascend abruptly.
54.90	Spur , 240 ft. above ravine , projects N.20°E.
	Descend over NW. slope.
66.20	Bottom of ravine , 290 ft. below spur , course N.
	Thence over rough land sloping N.
74.00	Top of spur , 120 ft. above ravine , projects NW.
	Descend abruptly over W. slope 205 ft. to
80.10	The cor. of secs. 16 , 17 , 20 and 21.
	Land , rough and broken mountains with N. exposure on steep N. slope of Deep Canyon.
	Soil , gravelly and rocky with some black loam and decayed vegetation , on rocky sub-soil ; 4 th. rate.
	Timber , some spruce , cedar , pinon and mahogany on both sides of line.
	Undergrowth , dense oak , service , choke cherry , buck and sage brush.
	July 13 , 1914.

July 18: At 7 h. 30 m. a. m. apparent time , I set off

chains	
	39° 30' on the lat. arc ; 21° 08'N., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16 , 17 , 20 and 21
	Thence I run
	N.0° 03'W., bet. secs. 16 and 17
	Over rough broken mountainous land facing N., through scrub cedar timber and undergrowth of oak , choke cherry , mahogany and buck brush.
	Descend abruptly.
2.00	Gulch , drains W., 50 ft. below cor.
	Ascend abruptly
5.00	Rocky spur , projects NW.
	Descend abruptly into Deep Canyon.
16.00	Bottom of Deep Canyon and creek , 15 lks. wide , 4 ins. deep , good water , 375 ft. below sec. cor., course W.
	Ascend abruptly from canyon through dense scrub timber and undergrowth. Rocky S. slope.
21.00	Rocky spur , 150 ft. above canyon , projects SW.
	Thence ascend over westerly slope on E. side of ravine.
35.00	Ascend abruptly over rocky S. slope.
40.00	Point for $\frac{1}{4}$ sec. cor. falls on ledge where cor. cannot be set.
40.23	Set an iron post , 3 ft. long , 1 in. dia., 12 ins. in the ground and 12 ins. in a mound of stone and earth , 4 ft. base , 1 ft. high for witness cor. to the $\frac{1}{4}$ sec. cor., with brass cap marked

T 15 S R 1 E
S 17 | S 16
WC $\frac{1}{4}$
1914

from which

A cedar , 14 ins. diam.,bears N.67°E., 26 lks. dist.,marked W C $\frac{1}{4}$ S 16 B T

A cedar ,10 ins. diam.,bears N.75°W., 33 lks.

Subdivision of T.15 S.,R.1 E.

chains	
	dist.,marked W C ¼ S 17 B T.
	Note: On account of natural obstacles , I am unable to set post more than 12 ins. in the ground.
	Cor. stands on steep S. slope of canyon 550 ft. above creek.
	Continue steep ascent.
69.68	Top of high ridge , 1200 ft. above Deep Canyon , bears NE. and SW
	Leave timber , thence descend through dense undergrowth of oak sage and service brush.
79.35	Head of ravine , 75 ft. below top of ridge , course NW.
	Ascend over W. slope.
80.00	Set an iron post , 3 ft. long , 2 ins, in dia., 24 ins. in the ground for cor. of sections , 16 and 17 , with brass cap marked

T 15 S R 1 E

S 17 | S 16

1914

dig pits , 36 x 36 x 12 ins., in each sec., 6 ft. dist., raise a mound of earth , 4 ft. base , 2 ft. high , S of cor.

Land , mountainous. S.69.68 chs. exceptionally rough land lying on N. and S. sides of Deep Canyon with steep N. and S. slopesinto canyon draining W. N.10.32 chs. Sorolling mountainous land lying near top of mountain and having a general W. exposure.

Soil ; rocky of limestone and volcanic formation on rocky sub-soil ; 4 th. rate. Some rich black loam soil on N. 10 chs.

Timber , scrub cedar , pinon and mahogany on slopes of canyon.

Undergrowth , dense oak , service , buck , sage and choke cherry.

I was ascending the N. side of canyon at noon ; observations for lat. were impossible.

Subdivision of T.15 S.,R.1 E.

chains	
	N.89°58'E., on a random line bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
80.08	Intersect N. and S. line 5 lks. N. of the cor. of secs. 9,10,15 and 16.
	Thence
	West, on true line bet. secs. 9 and 16.
	Over mountainous land draining S., through dense undergrowth of oak, service, mahogany and buck brush, Gradually ascend along nearly S. slope near top of divide between Deep canyon and Chicken creek.
6.40	Spur, 30 ft. above sec. cor., projects S. Gradually descend.
21.50	Ravine, near head, 50 ft. below spur, course S. Ascend abruptly.
29.75	Top of S. side of divide, bears N.80°W. and N.80°E. ; spur from divide, 65 ft. above ravine, projects S. Gradually descend along S. slope.
40.04	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 9 ¼ S 16 1914
	Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
50.30	Head of ravine, 130 ft. below ¼ sec. cor., course S. Ascend abruptly.
74.05	Top of ridge and divide bet. Deep canyon and Juab valley, bears NE. and SW. Descend abruptly over W. slope 130 ft. to
80.08	The cor. of secs. 16 and 17.
	Land, mountainous, follows along S. slope near top of high ridge divide.
	Soil, gravelly and rocky on gravelly and rocky sub-soil; 4th. rate.
	Timber, scattering scrub cedar, pinon and mahogany.
	Undergrowth, dense oak, service, buck and sagebrush.
	Some grass, good for grazing.

chains	July 18,1914
	Under date of September 15,1916 supplemental special instructions were issued for the change of surveys of certain lines of surveys in this township. The survey for the changes in this township was commenced December 5,1916 and executed with Young and Sons light mountain transits Nos. 8297 and 8584, equipped with Smiths solar attachment and full vertical circles. The horizontal limbs are provided with two double verniers, placed opposite to each other and reading to single minutes of arc which is also the least count of the verniers of the lat. and declination arcs and vertical circles.
	The instruments were approved for use in this survey by the assistant supervisor of surveys for Utah.
	I know the instruments to be in good adjustment, having tested them on a meridian established by observations on Polaris. For description of Polaris observation and test of instruments see survey of T.18 S.,R.7 E., Group 56, Utah.
	Howard O. Miller U. S. Surveyor
	December 5,1916: At 10h. a.m. apparent time, I set off 39°32' on the lat. arc; 22°22½'S., on the decl. arc; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 5 and 8.
	Thence
	East, on true line bet. secs. 5 and 8.
	Over rough mountainous land through cedar and pinon timber and undergrowth of oak and buck brush. Ascend abruptly over W. slope.
8.00	Wire fence, bears N. and S.
18.22	Dec. 5: At this station I set off 22°23½'S., on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39°32'.
20.10	Ridge, 365 ft. above ¼ sec. cor., bears NW. and SE. Gradually ascend along nearly N. slope.

chains	
26.40	Bottom of draw, drains N.35° W. [illegible].
	Ascend abruptly over NW. slope.
33.10	Spur, 225 ft. above draw, projects NW.
	Gradually ascend along N. slope.
40.00	50 ft. above spur.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 5 and 8, with brass cap marked
	T 15 S S 5 | S 8 R 1 E 1916
	from which
	A pinon, 4 ins. diam., bears N.89½°W., 250 lks. dist., marked T 15 S R 1 E S 5 B T
	No other trees available.
	Dig pits, 36 x 36 x 12 ins., SW. and NW. of post, 6 ft. distant.
	Land, rough mountainous, general NW. exposure and drainage.
	Soil, rich black mountain loam mixed with gravel on moist loam sub-soil.
	Timber, scattering pinon and cedar.
	Undergrowth, oak and buck brush. Good grazing.

	From the cor. of secs. 5 and 8.
	North, on a random line bet. secs. 4 and 5.
40.00	Set temp. ¼ sec. cor.
79.79	Intersect N. bdy. of the Tp. 1.37 chs., S.88°27'E. of the cor. of secs. 32 and 33 heretofore described.
	Thence from cor. of secs. 5 and 8
	North, on true line bet. secs. 4 and 5.
	Over mountainous land through dense undergrowth of oak, buck and service berry. Descend abruptly over N. slope.
6.17	Cease work.
	December 5,1916.
	December 6,1916: Storm of snow prevents field work in a. m.

chains	
	At 2h. p.m. apparent time, I set off 39°32' on the lat. arc; 22°31'S., on the decl. arc; and determine a mer. with the solar at this station.
	Thence I continue north.
	Enter scattering cedar and pinon timber, bears E. and W.
19.80	Ravine, 580 ft. below sec. cor., course NW. Leave dense undergrowth, bears NW. and SE. Ascend abruptly over SW. slope.
25.90	Enter dense cedar and pinon timber, bears E. and W.
37.40	Ridge, 215 ft. above ravine, bears E. and W.
	Descend abruptly over N. slope.
39.83	Small draw, 70 ft. below ridge, course NW.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. E. bdy. sec. 5, with brass cap marked ¼ S 5 1916
	from which
	A cedar, 24 ins.diam., bears S.51°W., 57 lks. dist.,marked ¼ S 5 B T
	A cedar, 12 ins.diam.,bears N.9½°W., 57 lks. dist.,marked ¼ S 5 B T
	Gradually ascend over SW. slope.
44.50	Spur, 20 ft. above ¼ sec. cor., projects N.50°W.
	Gradually descend over N. slope 15 ft. to
46.17	A northing of 40.00 chs. from the closing cor. of secs. 4 and 9.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. W. bdy. sec. 4, with brass cap marked ¼ S 4 1916
	from which
	A cedar, 4 ins.diam.,bears N.73½°E., 82 lks. dist.,marked ¼ S 4 B T
	An oak, 4 ins. diam.,bears S.71½°E., 56 lks. dist.,marked ¼ S 4 B T

chains	
57.80	Cease work.
	December 6,1916.
	December 7,1916: Storm of snow prevents field work in a.m. At 2h.p.m. apparent time, I set off 39°32½' on the lat. arc; 22°38'S., on the decl. arc; and determine a mer. with the solar at this station.
	Thence I continue north.
58.20	Ravine, 305 ft. below ¼ sec. cor., course N.50°W.
	Ascend abruptly over S. slope.
68.00	Point of spur, 165 ft. above ravine, projects W.
	Gradually descend along W. slope.
75.60	Top of ridge, bears E. and W.
	Descend abruptly over NW. slope, 125 ft. to
79.79	Intersect N. bdy. of the Tp. 1.37 chs. S.88°27'E. of the cor. of secs. 32 and 33 heretofore described.
	At intersection,
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 4 and 5, with brass cap marked

T 14 S R 1 E
S 33

S 5 | S 4
T 15 S | R 1 E
CC
1916

from which

A cedar, 10 ins.diam.,bears S.8°E., 69 lks. dist.,marked C C T 15 S R 1 E S 4 B T

A cedar, 14 ins.diam.,bears S.46°W., 130 lks. dist.,marked C C T 15 S R 1 E S 5 B T

Land, rough mountainous, general W. exposure and drainage.

Soil, rich, moist black loam, mixed with gravel and loose shales, on moist loam and gravelly sub-soil.

Timber, cedar and pinon.

Undergrowth, oak, buck and service berry brush.

Good grazing.

December 7,1916.

Chains	
	December 8,1916: At 9h. 05m.a.m. apparent time, I set off 39°32' on the lat. arc; 22°42½'S., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5 and 8.
	Thence
	South, on temp. line on E. bdy. of sec. 8
40.00	Set temp. ¼ sec. cor.
45.00	December 8,1916: Sky overcast at noon, obsn. for lat. is impossible.
82.30	Computed distance. Set temp. SE. cor. of sec. 8.
	Thence
	West, along the S. bdy. of sec. 8.
5.00	Cease work.
	December 8,1916.
	December 9,1916: At 9h. 55m.a.m. apparent time, the sky is overcast. (Note: Sky overcast all day) By sighting along my line brought west December 8, I determine a meridian with the instrument.
	Thence I continue west.
40.00	Set temp. ¼ sec. cor.
79.35	Intersect the cor. of secs. 7,8,17 and 18.
	December 9,1916.
	December 12,1916: From the cor. of secs. 5 and 8
	South, on true line along the E. bdy. of sec. 8.
	Over rough mountainous land through dense oak and scattering service berry brush. Ascend abruptly over N. slope.
5.10	Ridge, 125 ft. above sec. cor., bears NW. and SE. Enter scattering cedar and pinon timber, bears with ridge. Gradually descend along nearly W. slope.
14.70	Descend abruptly over SW. slope.
19.10	Ravine, 160 ft. below ridge, course N.60°W. Gradually ascend over NW. slope.
24.60	Leave timber, bears E. and W.
29.10	Spur, 120 ft. above ravine, projects NW. Gradually descend over SW. slope
39.60	Position midway bet. the closing cor. of secs. 4 and 9 and the closing cor. of secs. 9 and 17.

chains	
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., W. bdy. sec. 9, with brass cap marked ¼ S 9 1916 from which An oak, 4 ins.diam.,bears S.74¼°E., 85 lks. dist., marked ¼ S 9 B T An oak, 3 ins.diam.,bears S.71°E., 80 lks. dist.,marked ¼ S 9 B T
35.60	Draw, 10 ft. below ¼ sec. cor., course NW. Gradually ascend over N. slope
40.00	Spur, 60 ft. above draw, projects W. Set an irpn post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. E. bdy. sec. 8, with brass cap marked ¼ S 8 1916 Dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. distant.
48.70	Spur, 100 ft. above ¼ sec. cor., projects NW. Gradually descend.
52.50	Ravine, course N.30°W. about 3 chs., thence NW. Enter fir timber, bears NW. and SE. Ascend abruptly over N. slope.
55.00	Leave timber, bears E. and W.
59.60	Enter dense mahogany, bears E. and W.
62.60	Ridge, 260 ft. above ravine, bears N.50°W. and S.50°E. Gradually descend over SW. slope.
64.50	Enter scattering cedar and pinon timber, bears E. and W,
72.40	Head of ravine, 20 ft. below ridge, course W. Gradually ascend over N. slope.
76.70	Ridge, 35 ft. above ravine, bears S.20°E. and W. Descend abruptly over SW. slope.
82.30	125 ft. below ridge. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in

Station

the ground for NE. cor. of sec. 8, with brass cap marked

T 15 S
R 1 E
S 8

1916

from which

A mahogany, 6 ins.diam., bears N.8°W., 20 lks. dist., marked T 15 S R 1 E S 0 B T

A cedar, 6 ins.diam., bears N.79½°W., 199 lks. dist., marked T 15 S R 1 E S 8 B T

Land, rough mountains, general NW. exposure and drainage.

Soil, rich black mountain loam, gravelly and rocky on moist, sticky clay sub-soil.

Timber, cedar, pinon and fir.

Undergrowth, oak, mahogany, buck and service berry brush. Good grazing.

West, on true line along S. bdy. sec. 8.

Over rough mountainous land through scattering cedar and pinon timber and undergrowth of mahogany, oak, buck, manzanita and brigham tea. Descend abruptly over W. slope.

1.40 Draw, 25 ft. below sec. cor., course S.

Ascend 35 ft. to

5.00 Ridge, bears N.30°E. and S.30°W.

Descend over W. slope.

21.00 Draw, 750 ft. below ridge, course N.30°W.

Gradually ascend over NE. slope.

30.30 Point of spur, 35 ft. above draw, falls NW.

Descend abruptly 100 ft. to

39.35 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. S. bdy. sec. 8, with brass cap marked

¼ S 8

1916

from which

A cedar limb, 12 ins.diam., bears N.16°E., 117 lks.

chains	
	dist.,marked ½ S 8 B T
	An oak, 3 ins.diam.,bears N.42°E., 77 lks.
	dist.,marked ½ S 8 B T
39.70	Ravine, course SW.
41.70	Same ravine, course N.50°W., 25 ft. below ½ sec. cor.
	Gradually ascend along N. slope.
47.00	Spur, 25 ft. above ravine,projects NW.
	Gradually descend.
57.40	Descend abruptly over NW. slope.
65.75	Ravine, 125 ft. below spur, course SW.
	Ascend.
72.00	Spur, 50 ft. above ravine, projects S.
	Descend.
74.20	Ravine, 40 ft. below spur, course S.20°E.
	Ascend.
77.75	Ridge, 60 ft. above ravine, bears NE. and S.80°W.
	Descend.
79.35	The cor. of secs. 7,8,17 and 18.
	Land, rough mountainous, general SW. exposure and drainage.
	Soil, gravelly and rocky of limestone formation with some blue clay on gravelly and rocky sub-soil.
	Timber, cedar and pinon.
	Undergrowth, oak, mahogany, service berry, buck brush and brigham tea.

December 12,1916.

Lyman E. Bolinger

U.S.Transitman.

December 8,1916: At 9h. a.m. apparent time, I set off 39°30' on the lat. arc; 22° 42'S., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 18 and 19.

Thence

South, on temp. line along E. bdy. of sec. 19.

40.00	Set temp. ¼ sec. cor.

December 6: The sky is overcast at noon, observation for

chains

lat. is impossible.

80.00 Set temp. SE. cor. of sec. 19.

December 8,1916.

December 9,1916: The sky is overcast all day. By a sight along my line on E. bdy. of sec. 19, I determine a meridian with the instrument at the temp. SE. cor. of sec. 19.

Thence

West, on temp. line along S. bdy. of sec. 19

40.00 Set temp. ¼ sec. cor.

78.52 Fall 10 lks. N. of the cor. of secs. 19 and 30 on the E. bdy. of the Tp.hereinafter described.

December 9,1916.

December 11,1916: From cor. of secs. 18 and 19.

South, on true line along E. bdy. of sec. 19

Over rough mountainous land through cedar and pinon timber and undergrowth of buck, service berry and oak brush. Abrupt ascent over N. slope.

10.50 Ridge, 435 ft. above sec. cor., bears N.80°W. and S.80°E. Descend.

15.40 Ravine, 30 ft. below ridge, heads E. about 1 ch., drains W. Ascend.

19.50 Ridge, 180 ft. above ravine, bears E. and W.

Descend abruptly over S. slope over series of broken limestone ledges. Line crosses several unimportant draws draining SE.

[illegible] Position midway bet. the closing cor. of secs. 17 and 20 and closing cor. of secs. 20 and 30.

Set an iron post, 3 ft. long, 1 in. in dia., 36 ins. in the ground for ¼ sec. cor. E. bdy. sec. 30, with brass cap marked

| | S 30

1916

from which

chains	
	A pinon, 12 ins.diam.,bears N.10½°E., 57 lks. dist.,marked ½ S 20 B T
	A pinon, 10 ins.diam.,bears N.79°E., 68 lks. dist.,marked ½ S 20 B T.
38.20	Ravine, 265 ft. below ridge, course W. Ascend.
40.05	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. E. bdy. sec. 19, with brass cap marked ¼ S 19 1916 from which
	A cedar, 7 ins.diam.,bears S.36°W., 38 lks. dist.,marked ½ S 19 B T
	A cedar, 6 ins.diam.,bears S.80½°W., 113 lks. dist.,marked ½ S 19 B T
50.00	Ridge, 360 ft. above ravine, bears E. and W. Descend.
55.75	Ravine, 145 ft. below ridge, course W. Ascend.
59.40	Spur, 100 ft. above ravine, projects W. Descend.
67.80	Descend abruptly over ledges.
68.75	Top of ledge, 60 ft. high, bears E. and W.
70.60	Ravine, 215 ft. below spur, course W. Ascend abruptly.
76.80	Ridge, 160 ft. above ravine, bears E. and W. Descend over S. slope at head of ravine draining SW.
80.10	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for SE. cor. of sec. 19, with brass cap marked R 1 E T 15 S S 19 1916 from which
	A cedar, 7 ins.diam.,bears N.37°W.,100 lks. dist.,marked T 15 S R 1 E S 19 B T

Land, rough mountainous, with general W. exposure. General N. and S. slopes into ravines draining W.

Soil, shale rock and rocky of limestone formation with some

Subdivision of T.15 S.,R.1 E.

chains	
	blue clay soil on rocky sub-soil.
	Timber, cedar and pinon.
	Undergrowthm buck, service berry, oak and sagebrush.

	West, on true line along S. bdy. of sec. 19.
	Over rough mountainous land through cedar and pinon timber and undergrowth of buck, service berry and sagebrush.
	Ascend from head of ravine draining S.20°W. over SE. slope.
6.50	Spur, 70 ft. above ravine, projects SW.
	Descend along top of spur.
13.00	Spur, turns SW. Descend abruptly along N. slope.
17.80	Descend abruptly over NW. slope. A small ravine drains W. about 3 chs. N. of line.
30.15	Base of descent on S. side of bottom of ravine, 470 ft. below spur. Ascend over broken NE. slope.
34.70	Ridge spur, 25 ft. above base of descent, projects NW. Leave dense timber, bears NW. and SE. Descend abruptly over W. slope, series of broken limestone ledges.
38.52	Set an iron post, 3 ft. long, 1 in. in dia., 6 ins. in the ground on solid rock and 20 ins. in a mound of stone for ¼ sec. cor. S. bdy. sec. 19, with brass cap marked
	¼ S 19
	1916
	Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	No suitable trees are available.
	Continue steep descent.
45.60	Bottom of canyon and wash, 60 lks. wide, 10 ft. deep, 400 ft. below ridge, course NW. about 2 chs. to junction with ravine from the E., thence N.70°W.
	Ascend over NE. slope.
60.90	Top of steep ascent, thence gradually ascend over N. slope entering dense cedar and pinon timber, bears N. and S.
66.50	Spur, 60 ft. above canyon, projects NW.

chains	
	Gradually descend over gentle NW. slope 70 ft. to
78.52.	The cor. of secs. 19, and 30.
	Land, rough mountainous, general W. exposure and drainage.
	Soil, loose shales, rocky and clay of limestone formation on hard, dry clay and rocky sub-soil.
	Timber, cedar and pinon.
	Undergrowth, buck, service berry, oak and sagebrush.

	December 7,1916: At 2h..p.m. apparent time, I set off .39°32' on the lat. arc; 22°38'S., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16,17,20 and 21.
	Thence
	West, on true line bet. secs. 17 and 20 knowing that a closing cor. will be necessary for secs. 17 and 20.
	Over rough mountainous land along S. side of Deep canyon through dense undergrowth of oak, service berry and buck brush and scattering cedar and pinon timber.
	Descend abruptly.
.60	Ravine, 30 ft. below sec. cor., course N.
	Ascend abruptly over ledges.
3.50	Leave ledges, bear N. and S., 125 ft. above ravine.
	Continue steep ascent.
11.35	Spur, 135 ft. above top of ledges, projects N.
	Descend abruptly.
15.64	Top of limestone ledges, 20 ft. high, bears NE. and SW.
15.70	Base of ledges.
18.08	Ravine, 170 ft. below spur, course N.
	Ascend abruptly over E. slope.
21.45	Spur, 80 ft. above ravine, projects N.
	Descend over steep NW. slope.
31.67	Ravine, 280 ft. below spur, course N.
	Ascend abruptly very steep E. slope.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked

S 17
¼
S 20
1914

Subdivision of T.15 S.,R.1 E.

chains	
	from which
	An oak, 6 ins.diam.,bears S.85¼°E.,24 lks. dist.,marked ¼ S 20 B T
	A mahogany, 8 ins.diam.,bears N.30½°W., 32 lks. dist.,marked ¼ S 17 B T
	Cor. stands on steep E. slope, 275 ft. above ravine.
	Continue steep ascent.
40.60	Top of steep ascent, bears NE. and SW. Gradually ascend.
45.75	Spur, 60 ft. above ¼ sec. cor., projects N.
	Thence descend over rough broken land facing N., across numerous small spurs and ravines.
69.00	Ravine, 175 ft. below spur, course N.
	Ascend over NE. slope over limestone ledges and loose shale rock.
81.70	Sharp rocky spur, 260 ft. above ravine, projects N.
	Descend abruptly over W. slope.
85.40	Ravine, 100 ft. below spur, course N.
	Ascend.
87.00	Low point, 25 ft. above ravine, falls N.
	Descend.
93.00	Ravine, 100 ft. below point, course N.
	Ascend over broken ground.
99.75	Spur, 100 ft. above ravine, projects N.
	Gradually descend.
104.00	Head of ravine, 60 ft. below spur, course N.
	Ascend abruptly.
110.50	Top of ridge, 140 ft. above ravine, bears N.80°W. and S.80°E.
112.00	Descend abruptly over W. slope.
116.00	Head of ravine, 90 ft. below ridge, course S.
	Thence over rocky land sloping S.
128.07	Intersect E. bdy. sec.18, 9.20 chs., N.0°49'W., of the cor. of secs. 18 and 19. At intersection,
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 17 and 20, with brass cap marked

chains

T 15 S | R 1 E
S 17
CC
S 18 | S 20

1914

from which

A cedar, 22 ins.diam.,bears N.72°E.,67 lks. dist.,marked T 15 S R 1 E S 17 B T

A cedar, 20 ins.diam.,bears S.66¾°E., 101 lks. dist.,marked T 15 S R 1 E S 20 B T

Land, rough mountainous drains N. into Deep canyon on E. 110.50 chs. and S. into deep ravine on remainder of mile.

Soil, loose shale rock and rocky of limestone formation, on gravelly and rocky sub-soil; 4th. rate.

Timber, scrub cedar and pinon.

Undergrowth, dense buck, service berry, oak and mahogany.

December 7,1916.

Howard Monteer

U. S. Surveyor.

December 8,1916: From the cor. of secs. 16 and 17 West, on true line along the N. bdy. of sec. 17.

Over rough mountainous land through dense undergrowth of oak, service berry and sagebrush.

Descend over W. slope of ridge.

6.00 Small ravine, 120 ft. below sec. cor., course SW.

Thence over land sloping nearly N., gradually descending.

23.00 Ravine, 400 ft. below sec. cor., course SW.

Enter scrub cedar, pinon and mahogany timber, bears N. and S. Ascend abruptly.

37.50 Spur, 200 ft. above ravine, projects S.

Descend.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor. N. bdy. sec. 17, with brass cap marked

Subdivision of T.15 S.,R.1 E.

chains	
	¼ S 17 1916
	from which
	A cedar, 4 ins.diam.,bears S.41½°E., 74 lks. dist.,marked ¼ S 17 B T
	No other trees available.
	Dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. distant.
45.00	Draw, 50 ft. below ¼ sec. cor., course SE.
	Leave cedar and pinon timber, bears N. and S. Gradually ascend over E. slope.
48.60	Ridge, 20 ft. above draw, bears N.30°E. and S.30°W.
49.70	Intersect E. bdy. sec. 8, 8.77 chs. north of the SE. cor. of sec. 8. At intersection,
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 9 and 17, with brass cap marked
	T 15 S | R 1 E S 9 S 8 ——— CC S 17 1916
	from which
	A mahogany, 4 ins.diam.,bears N.61½°E., 153 lks. dist.,marked C C T 15 S R 1 E S 9 B T
	A mahogany, 5 ins.diam.,bears S.30½°E., 79 lks. dist.,marked C C T 15 S R 1 E S 17 B T
	Land, rough mountainous, general SW. exposure and drainage.
	Soil, gravelly, loose shale rock and some blue clay on hard, dry clay and gravelly sub-soil; 4 th. rate.
	Timber, scrub cedar, pinon and mahogany.
	Undergrowth, oak, service berry and buck brush.
	December 8,1916.

	December 5,1916: From the cor. of secs. 3,4,9 and 10 West, on true line bet. secs. 4 and 9 knowing that a closing cor. will be necessary for secs. 4 and 9.

Subdivision of T.15 S.,R.1 E.

chains	
	Over rough mountainous land draining NE., through dense undergrowth of oak, buck, service berry and choke cherry Ascend abruptly over SE. slope of ridge.
4.90	Top of ridge, 100 ft. above sec. cor., bears NE. and SW. Descend over NW. slope.
6.40	Enter scattering spruce timber, bears NE. and SW.
16.50	Ravine, 180 ft. below ridge, course NE. Leave spruce timber and enter dense maple undergrowth, bears NE. and SW. Ascend over E. slope.
25.00	Leave maple undergrowth, bears N. and S.
40.00	Top of steep ascent, 700 ft. above ravine, bears N. and S. Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor., with brass cap marked $\frac{S\ 4}{S\ 9}$ 1916
	Dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. distant.
	Gradually ascend.
41.70	Top of high ridge, 15 ft. above $\frac{1}{4}$ sec. cor., bears N. and S. Gradually descend over nearly W. slope.
48.45	Top of steep descent, bears N. and S. Descend abruptly.
55.50	Ravine, 145 ft. below ridge, course SW. Gradually ascend over nearly S. slope.
64.65	Spur, 100 ft. above ravine, projects SW. Descend abruptly over W. slope.
93.90	Descend more gradually.
102.20	Descend abruptly.
110.40	Ravine, 1030 ft. below spur, course NW. Ascend abruptly over NE. slope.
123.10	Spur, 190 ft. above ravine, projects N. Gradually descend 110 ft. to
129.57	Intersect E. bdy. of sec. 5, 6.17 chs. north of the cor. of secs. 5 and 8. At intersection,
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 4 and 9, with brass cap marked.

chains

T 15 S | R 1 E
S 4
S 5 ——— CC
S 9
1916

from which

A cedar, 12 ins.diam.,bears N.31½°E., 160 lks. dist.,marked C C T 15 S R 1 E S 4 B T

A fir, 18 ins.diam.,bears S.62°E., 100 lks. dist.,marked C C T 15 S R 1 E S 9 B T

Land, mountainous, with steep slopes of spurs and ridges draining NE. on E. 41.70 chs. and W. on remainder of mile.

Soil, gravelly and rocky with shallow , warm sandy loam on moist loam and gravelly sub-soil; 4th. rate.

Timber, scattering patches of spruce.

Undergrowth, oak, buck, service berry, maple and sagebrush. Fair grazing.

December 5,1916.

Ignatius E. Bolinger
U. S. Transitman

July 2,1914: At 7h.50m.a.m. apparent time, I set off 39°29' on the lat. arc; 23°06'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

West, on sectional correction line bet. secs. 29 and 32.

Gradually descend over mountainous land draining S., through dense undergrowth of sagebrush.

1.30 Enter dense oak brush, bears N. and S. Ascend over SE. slope/

5.00 Wire fence, bears N. and S.

12.80 Spur, 60 ft. above sec. cor., projects S. Descend abruptly over W. slope.

24.00 Bottom of ravine and stream, 1 lk. wide, 1 in. deep, good water, 235 ft. below spur, course S. Ascend abruptly over E. slope.

Subdivision of T.15 S.,R.1 E.

chains	
34.30	Spur, 295 ft. above ravine, projects S.25°E.. Gradually descend.
36.85	Enter scrub cedar and pinon timber, bears N. and S. Descend over W. slope.
40.00	75 ft. below spur. Set an iron post, 3 ft. long, 1 in. in dia., 12 ins. in the ground on solid rock and 12 ins. in a mound of stone and earth, 4 ft. base, 1 ft. high, for ¼ sec. cor. with brass cap marked S 29 ¼ S 32 1914 from which A cedar, 5 ins.diam.,bears S.27½°W.,64 lks. dist.,marked ¼ S 32 B T A cedar, 6 ins.diam.,bears N.50½°W., 63 lks. dist.,marked ¼ S 29 B T
40.90	Ravine, near head, drains SW. Ascend over SE. slope.
46.40	Spur, 50 ft. above ravine, projects S. Leave undergrowth and enter dense timber, bears N. and S. Descend.
48.00	Head of ravine, drains S. Ascend over SE. slope.
62.30	Top of ridge, 160 ft. above ravine, bears NE. and SW. Descend over NW. slope.
64.00	Leave dense timber and enter dense oak brush, bears N. and S.
70.40	Head of ravine, 165 ft. below ridge, course N. Ascend abruptly over E. slope.
80.00	145 ft. above ravine on E. slope of top of ridge. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 29,30,31 and 32, with brass cap marked T 15 S | R 1 E S 30 | S 29 S 31 | S 32 1914 Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Land, rough mountainous, drains S. on E.62.30 chs. and N. on remainder of mile.

Subdivision of T.15 S.,R.1 E.

chains Soil, generally gravelly and rocky of limestone formation with some, dry, hard clay, on gravelly and rocky sub-soil; 4th. rate.

Timber, scrub cedar and pinon.

Undergrowth, oak, buck, service.berry, and sagebrush.

Fair grazing.

July 2: At this sec. cor., I set off 23°05'N., on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39°29'.

South, on a random line bet. secs. 31 and 32.

40.00 Set temp. ¼ sec. cor.

86.50 Intersect S. bdy. of the Tp. at the St. cor. of secs. 31 and 32 heretofore described.

Thence

North, on true line bet. secs. 31 and 32.

Over rough mountainous land through scattering scrub cedar timber and undergrowth of oak and sagebrush.

Gradually ascend over SE. slope.

3.10 Spur, 15 ft. above cor., projects N.15°E.

Descend abruptly into Little Salt Cr. canyon.

8.60 Bottom of canyon, 150 ft. below spur, bears E. and W.

11.95 Little Salt Cr., 10 lks. wide, 5 ins. deep, good water, course W. Gradually ascend.

14.70 Wagon road, bears E. and W. Leave canyon, bears NE. and W.

Ascend over SE. slope of spur.

20.35 Spur, 60 ft. above creek, projects SW. Descend.

25.30 Ravine, 40 ft. below spur, course S.20°W.

Thence up steep rocky slope, land facing SE, through scrub timber and undergrowth.

45.10 Top of steep ascent, 330 ft. above ravine, bears NE. and SW. Gradually ascend.

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

S 31 | ¼ | S 32

1914

from which

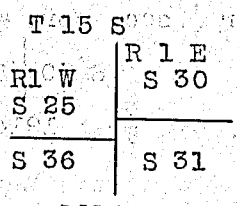
chains	
	A cedar, 16 ins.diam.,bears S 6½°E.,158 lks. dist.,marked ¼ S 32 B T
	A cedar, 10 ins.diam.,bears S.44½°W., 89 lks. dist.,marked ¼ S 31 B T
59.80	Spur, 155 ft. above ¼ sec. cor., projects SE. Descend.
62.20	Ravine, 55 ft. below spur,—course SE. Ascend abruptly.
66.95	Spur, 175 ft. above ravine, projects SE. Thence over broken land sloping E. at head of ravine, through dense timber and undergrowth.
71.95	Spur, projects SW. Descend over NW. slope.
77.00	Ravine at head, 125 ft. below spur, course SW. Ascend.
83.00	Low saddle in ridge, bears E. and W. Gradually ascend along E. slope.
86,50	The cor. of secs. 29,30,31 and 32.
	Land, mountainous, drains N. and S. into Little Salt Cr.
	Soil, gravelly, rocky and clay of limestone and volcanic formation on gravelly and rocky sub-soil; 4th. rate.
	Timber, scrub cedar and pinon.
	Undergrowth, dense sage, oak, service berry and buck brush. Fair grazing.
	July 2,1914.
	July 3: At 10h. a.m. apparent time, I set off 39°29' on the lat. arc; 23°01'N., on the decl. arc; and determine a meridian with the solar at the cor. of secs.29,30,31 and 32.
	Thence
	West, on true line bet. secs. 30 and 31, knowing that closing cors. will be necessary on the W. bdy. of the Tp.
	Over mountainous land, through scrub cedar and pinon timber and undergrowth of buck, oak and service berry brush. Ascend 10 ft. to
1.00	Ridge, bears NE. and SW. Descend over NW. slope.
17.15	Ravine, 300 ft. below ridge, course SW. Leave oak brush, bears NE. and SW. Ascend over SE. slope.
28.00	Ridge, 190 ft. above ravine, bears NE. and SW. Gradually descend along N. slope.

Subdivision of T.15 S.,R.1 E.

chains	
34.30	Head of ravine, 30 ft. below ridge, course N. Ascend over NE. slope
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor., with brass cap marked S 30 / ¼ / S 31 / 1914 from which A pinon, 10 ins.diam.,bears S.1 lk. dist.,marked ¼ S 31 B T An oak, 8 ins.diam.,bears N.75½°W.,98 lks. dist.,marked ¼ S 30 B T
	The sky is overcast at noon, obsn. for lat. is impossible. Heavy storm of rain prevents work in p.m. July 3,1914.
	July 6: At 8h.45m.a.m. apparent time, I set off 39°29' on the lat. arc; 22°44'N., on the decl. arc; and determine a meridian with the solar.
	Thence I continue West.
43.00	Top of junction of ridges, bears N., S. and SE., 100 ft. above ravine. Descend over W. slope.
46.20	Ravine, 120 ft. below ridge, course S.20°W. Ascend.
51.50	Spur, 55 ft. above ravine, projects S.20°W. Descend.
55.60	Ravine, 100 ft. below spur, course S.15°W. Ascend abruptly over E. slope.
69.35	Top of peak on high spur, 230 ft. above ravine, projects SW. Descend over NW. slope.
94.95	Ravine, 500 ft. below peak, course S.60°W. Ascend over broken S. slope over numerous spurs and ravines.
106.95	Spur, 50 ft. above ravine, projects SW. Descend over NW. slope.
117.95	Ravine, 265 ft. below spur, course NW. Ascend abruplty.
133.42	Intersect W. bdy. of the Tp., 8.53 chs. N.2°28'W., of the closing cor. of secs. 25 and 36, E. bdy. T.15 S.,R.1 W., heretofore described. At intersection,
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in

chains

the ground for corner ... of secs. 30 and 31,with brass cap marked



from which

A pinon, 7 ins.diam.,bears N.7°E., 19½ lks. dist.,marked T 15 S R 1 E S 30 B T

A pinon, 8 ins.diam.,bears S.42°E., 17½ lks. dist.,marked T 15 S R 1 E S 31 B T

Land, rough broken mountains, draining SW.

Soil, loose shales and rocky with some hard, dry, blue clay on gravelly and clay sub-soil; 4th. rate.

Timber, scrub cedar and pinon.

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

Not on line at noon this date, obsn. for lat. not taken.

July 6,1914.

July 7; At 7h. 30m.a.m. apparent time, I set off 39°29' on the lat. arc; 22°40'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°03'W., bet. secs. 29 and 30

Over mountainous land through scrub cedar and pinon timber and undergrowth of oak, service berry and buck brush.

Ascend over SE. slope.

1.20 Ridge, 15 ft. above sec. cor., bears NE. and SW.

Descend over NW. slope.

16.20 Enter maple undergrowth, bears W. and E.

18.50 Bottom of ravine and small stream, 400 ft. below ridge, course W. Head of small spring bears E. 1 ch.

Leave maple undergrowth, bears E. and W. Ascend abruptly.

40.00 350 ft. above ravine on steep SE. slope.

Subdivision of T.15 S.,R.1 E.

chains

Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in a mound of stone and earth 4 ft. base, 2 ft. high, on solid rock for ¼ sec. cor. with brass cap marked

S 30 | S 29
¼
1914

from which

A cedar, 16 ins.diam., bears N.82°E.,70 lks. dist., marked ¼ S 29 B T

A cedar, 14 ins.diam., bears S.41½°W., 127 lks. dist.,marked ¼ S 30 B T

41.00 Leave timber, bears E. and W. Continue ascent through dense sage and oak brush.

54.15 Ridge, 150 ft. above ¼ sec. cor., bears N. and S.10°W. Thence along W. slope near top of ridge.

78.60 Leave ridge, bears NW. and S. Descend over NE. slope.

80.00 25. ft. below top of ridge.

Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 29 and 30, with brass cap marked

T 15 S · R 1 E

S 30 | S 29

1914

Dig pits, 24 x 24 x 12 ins. SE. and SW. of post, 6 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, S. of cor.

Land, rough mountainous, drains W.

Soil, gravelly and rocky of limestone formation on gravelly and rocky sub-soil; 4th. rate.

Timber, scrub cedar and pinon.

Undergrowth, dense sage, oak,service berry,. buck brush and maple. Fair grazing.

July 7; At this cor. I set off 22°37'E., on the decl. arc, and at apparent noon obs. the sun on the mer.; the resulting lat. is 39° 30'.

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

Subdivision of T.15 S.,R.1 E.

chains	
40.00	Set temp. ¼ sec. cor.
80.01	Intersect N. and S. line 2 lks. N. of the cor. of secs. 20,21,28 and 29.
	Thence
	N.89°59'W. on true line bet. secs. 20 and 29
	Over rough mountainous land draining SW. through dense undergrowth of oak and buck brush. Descend abruptly over W. slope of high ridge.
6.00	Enter maple undergrowth, bears N. and S.
16.30	Ravine, 340 ft. below sec. cor., course from NE. to S.80° W. Thence gradually ascend along nearly S. slope.
22.00	Begin ascent over SE. slope through very dense undergrowth.
30.00	Top of steep ascent, bears N. and S. Gradually ascend.
37.00	Enter mahogany timber, bears N. and S.
40.00½	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in a mound of stone and earth, 4ft. base, 2 ft. high on solid rock for ¼ sec. cor., with brass cap marked S 20 ¼ S 29 1914 from which A mahogany, 5 ins.diam.,bears S.9°W., 17 lks. dist.,marked ¼ S 29 B T An oak, 3 ins.diam.,bears N.71°W., 35 lks. dist.,marked ¼ S 20 B T
44.00	Leave mahogany timber, bears N. and S.
50.10	Spur, 75 ft. above ¼ sec. cor., projects S. Descend abruptly over SW. slope.
64.85	Ravine, 400 ft. below spur, course S.25°W. Ascend abruptly.
67.85	Spur, 75 ft. above ravine, projects S. Descend.
72.75	Ravine, 35 ft. below spur, course SE. Ascend over E. slope 135 ft. to
80.01	The cor. of secs. 29 and 30.
	Land, mountainous S. exposure and drainage.
	Soil, gravelly, rocky and decayed vegetation and rich moist black loam on moist loam and rocky sub-soil;
	4 rth. rate.

Subdivision of T.15 S.,R.1 E.

chains	
	Timber, scrub mahogany.
	Undergrowth, dense oak, service berry, buck, maple and sagebrush. Fair grazing.
	July 7,1914

	December 8,1916: From cor. of secs. 29 and 30 West, on true line along N. bdy. of sec. 30
	Over rough mountainous land through dense undergrowth of oak, service berry and buck brush and scattering cedar and pinon timber. Ascend over E. slope.
.85	Ridge, 20 ft. above sec. cor., bears N. and S.
	Descend abruptly over SW. slope.
8.50	Descend abruptly over NW. slope.
23.65	Ravine, 600 ft. below ridge, course S.50°W.
	Gradually ascend over broken land facing S.
36.60	Top of ascent, 30 ft. above ravine, bears N. and S.
	Descend abruptly over loose shale rock.
40.00	Point for ¼ sec. cor. falls on broken limestone ledge where cor. cannot be set, I therefore continue west.
42.50	Ravine, 210 ft. below top of ascent, course NW.
	Ascend over broken N. slope.
43.50	On steep N. slope 20 ft. above ravine.
	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for witness cor. to the ¼ sec. cor. N. bdy. sec. 30, with brass cap marked
	T 15 S R 1 E / S 30 / 1916 WC ¼
	from which
	A pinon, 8 ins.diam.,bears S.76½°W.,10½ lks. dist.,marked W C ¼ S 30 B T
	A pinon, 8 ins.diam.,bears N.61½°W., 13 lks. dist.,marked W C ¼ S 20 B T
45.00	Point, 15 ft. above witness ¼ sec. cor., falls N.
	Descend.
47.84	Intersect E. bdy. of sec. 19, 9.19 chs., north of the SE. cor. of sec. 19. At intersection,

Subdivision of T.15 S.,R.1 E.

chains

Set a limestone, 14 x 12 x 7 ins., 9 ins. in the ground for closing cor. of secs. 20 and 30, marked CC and 5 grooves on E. and 2 grooves on S. face;

from which

A cedar, 10 ins.diam.,bears N.74°E.,55 lks. dist.,marked C C T 15 S R 1 E S 20 B T

A cedar, 7 ins.diam.,bears S.50°E., 58 lks. dist.,marked C C T 15 S R 1 E S 30 B T

No iron posts are available.

Land, rough, broken mountains, general W. exposure and drainage.

Soil, gravelly and rocky of limestone formation with some blue clay soil on hard, dry clay and rocky sub-soil.

Timber, cedar and pinon.

Undergrowth, oak, sagem service berry and buck brush.

Fair grazing.

December 8,1916.

Blank

Page

Re-survey of the 3 rd. Standard Parallel South , through R.1 E.

chains

Survey commenced May 29 , 1914 and executed with a Young and Sons light mountain transit No. 8517 , with solar attachment. The horizontal limb is provided with two double verniers , placed opposite to each other and reading to single minutes of arc ; which is also the least count of the verniers of the lat. and decl. arcs.

The instrument was approved for use in this survey by Mr. G. D. D. Kirkpatrick , Assistant Supervisor of Surveys.

I know the instrument to be in good adjustment , having tested it May 27 and 28 on a Polaris meridian at my camp near the E. bdy. sec. 25 , T.15 S., R.1 E. For record of this test see field notes of the survey of the E. bdy. T.15 S., R.1 E.

A steel tape , 5 chains long was used in the field work of this survey , together with a clinometer for determining slope angles , and the reduced horizontal distances only appear in the official field notes. The tape was tested during the progress of the survey , comparison being made with a standard tape , 1 ch. long kept and used for that purpose .

In the decl. arc. settings , .80 of the tabulated refraction , for computing declinations , is used in this survey , due to the altitude of the country which is approximately 6500 ft.

I begin at the Standard Closing cor. for Tps. 15 and 16 S., R. 1 E., heretofore described.

May 29 : At 7;30 a. m. apparent time , I set off 39°28' on the lat. arc ; 21° 34' N., on the decl. arc ; and

Retracement of the 3 rd. Standard Parallel South, through R.1 E.

chains	
	determine a meridian with the solar.
	Thence I run
	West , retracing along the S. bdy. sec. 36
40.00	After a long and careful search , I am unable to find any trace of the old standard ¼ sec. cor.
	May 29: I was enroute between transit stations at noon, observations for lat. were impossible
79.37	Intersect the closing cor. of secs. 1 and 2 , T.16 S.,R. 1 E., which is a limestone , 12 x 9 x 10 ins. above ground , firmly set , and marked and witnessed as described by the Surveyor General.
80.00	No trace of the standard cor. of secs. 35 and 36 can be found. I therefore continue my line
	West
120.00	After a long and careful search , I am unable to find any trace of the standard ¼ sec. cor.
	Cease work.
	May 29,1914
	May 31: At my camp , situated near the E. bdy. sec. 25 , T.15 S.,R.1 E., I test my transit during a. m. and p. m. hours on the meridian determined by observations on Polaris May 27 , as follows:
	At 8:10 a. m. apparent time , I set off 39° 28' on the lat. arc ; 21° 52' N., on the decl. arc ; and determine a meridian with the solar. This meridian agrees with the Polaris meridian determined May 27.
	With the transit on the Polaris meridian , I set off 21° 53' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 28'
	At 3 h. p. m. apparent time , I set off 21° 54'N., on the decl. arc ; and determine a meridian with the solar. This meridian also agrees with the Polaris meridian.
	I take numerous other solar observations during the day and find that none of them vary more than 1' from the Polaris meridian.

RETRACEMENT OF THE 3RD STANDARD PARALLEL SOUTH, THROUGH R.1 E.

chains	May 31,1914
	June 5: At 7h. 25m.a.m. apparent time, I set off 39° 28' on the lat. arc; 22° 31'N., on the decl. arc; and determine a meridian with the solar at the temp. point for the ¼ sec. cor. on the S. bdy. of sec. 35.
	Thence
	West, retracing on the S. bdy. of sec. 35 counting distances from the standard closing Tp. cor.
159.85	Fall 28 lks. N. of the closing cor. of secs. 2 and 3, T.16 S.,R.1 E., which is a sandstone 8 x 8 x 6 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.
160.00	After a long and careful search, I am unable to find any trace of the standard cor. of secs. 34 and 35.
200.00	After a long and careful search, I am unable to find any trace of the standard ¼ sec. cor.
	June 5: At this station, I set off 22° 32'N., on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39° 28'.
239.60	Fall 2.18 chs. N. of the closing cor. of secs. 3 and 4, T.16 S.,R.1 E., which is a sandstone, 9 x 8 x 5 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.
240.00	After long and careful search, I am unable to find any trace of the standard cor. of secs. 33 and 34.
280.00	Cease work.
	June 5,1914.
	June 24: At 10h. a.m. apparent time, I set off 39° 28' on the lat. arc; 23° 26'N., on the decl. arc; and determine a meridian with the solar at the point set at the close of work June 5.
	Thence I continue
	West, retracing on the S. bdy. of sec. 33.
325.00	After a long and careful search, I am unable to find any trace of the standard ¼ sec. cor.

RETRACEMENT OF THE 3RD. STANDARD PARALLEL SOUTH, THROUGH R.1 E.

chains	
	June 24: I was searching for the ¼ sec. cor. at noon; observation for latitude was not taken.
360.33	Fall 6.59 chs. N. of the standard cor. of secs. 32 and 33 which is a sandstone, 20 x 12 x 8 ins., lying on the ground, marked correctly and witnessed by a mound of stone N. of cor.
	June 24,1914
	June 25: At 7h. 20m.a.m. apparent time, I set off 39°28' on the lat. arc; 23°25'N., on the decl. arc; and determine a meridian with the solar at the standard cor. of secs. 32 and 33.
	Thence I run
	West, retracing on the S. bdy. of sec. 32.
35.00	No trace of the closing cor. of secs. 5 and 6, T.16 S., R.1 E. can be found.
40.00	After long and careful search, I am unable to find any trace of the standard ¼ sec. cor. I continue my line West
79.70	No trace of the standard cor. of secs. 31 and 32 can be found.
80.00	June 25: At this station I set off 23° 25'N., on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39°28'.
159.30	Intersect N. and S. line 4 lks. N. of the standard SW. cor. of T.15 S.,R.1 E., which is a sandstone, 22 x 10 x 9 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.
	I re-establish this cor. as follows:
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground alongside old cor. for standard SW. cor. of T.15 S.,R.1 E., with brass cap marked

T15S
R1W | R1E
S31
S36 | S1
S1
T16S R1W
1914

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

RESURVEY OF THE 3RD. STANDARD PARALLEL SOUTH, THROUGH R.1 E.

chains

June 25,1914

The last official survey of this standard parallel through R. 1 E., was made by Messers Stewart and Stewart, U. S. Deputy Surveyors in 1898, and closing cors. for T.16 S., R.1 E. set thereon. Messers Page and Lentz, U. S. Deputy Surveyors, made a resurvey of this line and destroyed the standard corners set by Messers Stewart and Stewart and left the closing cors. for T.16 S. standing. In my retracement of this line I find all the corners set by Messers Page and Lentz, one old original standard corner for secs. 32 and 33 and three of the closing corners set by Stewart and Stewart. The resurvey executed by Messers Page and Lentz has been rejected, and I destroy all cors. set by them. I am unable to find any of the standard cors. set by Stewart and Stewart.

To resurvey this standard parallel, by a straight line connecting the standard corners I found, would place the closing cors. for T.16 S. that have already been set on the parallel a considerable distance to the N. of the new survey, and therefore a portion of the surveyed area would be placed in unsurveyed territory. From evidence obtained in the field, the position of a resurvey of this line, by the above method would differ materially from the original, and it is evident that the closing cors. are the best points of evidence as to the location of the standard parallel, as they were originally set from 10 to 30 lks. from the standard corners. I therefore begin at the standard closing cor. of Tps. 15 and 16 S., R.1 E. and resurvey to the west, setting standard ½ sec. and sec. cors. at intervals of 40.00 chs., using the closing cors. and the old standard cor. of secs. 32 and 33 as points of alinement.

RESURVEY OF THE 3RD. STANDARD PARALLEL SOUTH, THROUGH R. 1 E.

chains	
	Note: The corners on this boundary were set June 7, 9, 10 and 29 and July 2,1914.
	From the closing cor. of Tps. 15 and 16 S., R.1 E. I run West, on S. bdy. of sec. 36.
	Over rough mountainous land draining S. and W., through dense undergrowth of oak, sage, service, buck, choke cherry and manzanita brush. Some scattering spruce and cedar timber on both sides of line.
	Descend over NW. slope of spur.
8.25	Bottom of ravine and stream, 2 lks. wide, 1 in. deep, good water, 80 ft. below cor., course S. 60° W.
	Ascend.
16.00	Spur, 60 ft. above ravine, projects S. 20 E., for about 6 chs. distance.
	Descend.
17.00	Enter exceptionally dense oak and choke cherry undergrowth, bears N. and S.
18.70	Enter dense aspen, maple and spruce timber, bears N. and S.
20.80	A spring of pure water, 1 lk. wide, flows W. out of a ledge4 ft. high, bears N. and S.
21.25	Bottom of ravine and stream, 10 lks. wide, 2 ins. deep, good water, 150 ft. below spur, course S.
	Ascend E. slope of spur.
23.00	Leave aspen, maple and spruce timber, ascend through dense undergrowth, bears N. and S.
36.00	Top of ridge spur, 225 ft. above ravine, projects S.15°W.
	Descend over NW. slope.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for standard ¼ sec. cor., with brass cap marked

chains	
	S 36 ¼
	1914
	from which
	A spruce , 5 ins. diam., bears N.37°E., 26 lks. dist., marked S C ¼ S 36 B T
44.00	Enter spruce and aspen timber with dense undergrowth of choke cherry , oak and maple brush , bears N. and S.
47.00	Thence along N. slope of spur.
51.75	Bottom of ravine and creek , 6 lks. wide , 2 ins. deep , good water , 170 ft. below ¼ sec. cor., course SW.
	Ascend SE. slope of spur.
52.82	Stream . 1 lk. wide , 1 in. deep , course S
53.00	Leave timber , continue in dense brush , bears NE. and SW.
64.65	Spur , 120 ft. above ravine , projects SW.
	Descend over W. slope.
72.00	Enter scattering red cedar timber , bears N. and S.
74.92	Bottom of ravine and stream , 5 lks. wide , 2 ins. deep good water , 130 ft. below spur , course S.
	Ascend abruptly.
77.00	Top of steep ascent , and leave cedars , bears N. and S.
	Gradually ascend.
79.37	The closing cor. of secs. 1 and 2 heretofore described.
	I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground alongside old cor. for closing cor. of secs. 1 and 2 , with brass cap marked

T 15 S R 1 E

S 35 | S 36

C C

S 2 | S 1

T 16 S.

1914

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

Thence

chains	
	S.89° 48'W., with continuous chaining.
80.00	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for Standard cor. of secs. 35 and 36 , with brass cap marked T 15 S R 1 E S 35 | S 36 1914
	from which
	An oak , 7 ins. diam., bears N.61 W.,261 lks. dist., marked T 15 S R 1 E S 35 B T
	An oak , 10 ins. diam., bears N.62 E.,160 lks. dist., marked T 15 S R 1 E S 36 B T
	Land , rough and broken mountains with a general S. drainage and with steep E. and W. slopes of ridges.
	Soil , gravelly and rich black loam on hard , moist , black loam sub-soil ; 2 nd. rate.
	Timber , scattering patches of spruce , aspen and cedar.
	Undergrowth , dense oak , sage , service , choke cherry, buck and maple. Good grass for grazing purposes.

	S.89° 48'W., on S. bdy. sec. 35
	Over rough mountainous land draining S. through dense undergrowth of sage brush. Scattering scrub cedars on both sides of line.
	Ascend over E. slope of ridge.
6.00	Enter dense oak brush , bears N. and S.
15.70	Enter maple undergrowth , bears N. and S
25.57	Top of ridge , 115 ft. above sec. cor., bears NE. and SW.
	Descend over NW. slope of ridge.
39.95	Leave oak and maple undergrowth , thence through dense undergrowth of sage brush.
40.00	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins.

chains

in the ground for standard ¼ sec. cor., with brass cap marked

S 35
¼
1914

from which

A maple , 3 ins. diam., bears N.9°E., 21 lks. dist marked S¼ S 35 B T

43.30 Enter dense choke cherry , maple , oak and service brush , bears N. and S. Descend over NW. slope.

63.50 Bottom of ravine and stream , 4 lks. wide , 2 ins. deep , good water , 400 ft. below ridge , course SW.

Enter exceptionally dense undergrowth of choke cherry.

Gradually ascend over SE. slope.

66.75 Spring branch , 2 lks. wide , 1 in. deep , course SE.

66.80 Leave dense choke cherry undergrowth at N. end of a patch of aspens , bears N. and S.

71.00 Thence over broken land sloping S. across numerous small spurs and ravines.

79.85 The closing cor. of secs. 2 and 3 , heretofore described.

I reestablish this cor. as follows :

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

T 15 S R 1 E
S 34 | S 35
C | C
S 3 | S 2

T 16 S
1914

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

Thence

S. 88° 38'W., with continuous chaining

80.00 Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for standard cor. of secs. 34 and 35 ,

chains	
	with brass cap marked T 15 S | R 1 E S 34 | S 35 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Land , mountainous draining SW., with W. and S. slopes into ravines.
	Soil , rich , moist , black loam and decayed vegetation with some rocks on rocky and deep , moist , black loam sub-soil ; 2 nd. rate.
	Timber , some aspen and cedar on both sides of line.
	Undergrowth , dense choke cherry , oak , sage , service , maple and buck brush.

	S.88°38'W., on S. bdy. sec. 34.
	Over rough broken land draining S., through dense undergrowth of oak , service and sage brush.
	Gradually ascend along N. side of Little Salt Creek.
17.00	Spur , 50 ft. above sec. cor., projects S.
	Descend 30 ft. to
29.10	Bottom of ravine and stream , 2 lks. wide , 1 in. deep , 40 ft. below spur , course S.
	Ascend 30 ft. to
35.00	Spur , projects SW.
	Descend abruptly.
39.20	Ravine , 50 ft. deep , course SW.
	Ascend
40.01½	A westing of 40.00 chs.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for standard ¼ sec. cor., with brass cap marked S 34 ¼ 1914

Re-survey of the 3 rd. Standard Parallel South , through R.1 E.

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
42.00	Spur , 30 ft. above ravine , projects S.
	Thence over broken land facing S.
48.50	Descend abruptly 125 ft. to
55.00	Bottom of ravine and stream , 4 lks. wide , 2 ins. deep , course SW.
	Ascend abruptly over SE. slope.
59.00	Spur , 74 ft. above ravine , projects S.
	Descend.
71.50	Bottom of ravine and stream , 3 lks. wide , 1 in. deep , good water , 125 ft. below spur , course SW.
	Gradually ascend.
74.00	An old corral bears S. about 3 chs.
79.63	A westing of 79.60 chs., the closing cor. of secs. 3 and 4 heretofore described.
	I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 2 ins. in dia., 24 ins. in the ground alongside old cor. for closing cor. of secs. 3 and 4 , with brass cap marked

T 15 S R 1 E
S 33 | S 34
C C
S 4 | S 3
T 16 S
1914

	raise a mound of stone , 2 ft. base , 1½ ft. high , S. of cor.
	Thence
	S.87°54'W., with continuous chaining
80.03	A westing of 80.00 chs.
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for standard cor. of secs. 33 and 34 , with brass cap marked

T 15 S R 1 E
S33 | S34
1914

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Land , mountainous with a general S. exposure.
	Soil , generally rocky of red sandstone formation on gravelly and rocky sub-soil ; 4 th. rate.
	Timber , a few scattering red cedar on both sides of line.
	Undergrowth , dense oak , sage , service , buck and juniper.

	S.87° 54' W., on S. bdy. sec. 33
	Over rough mountainous land draining SW., through dense undergrowth of sage and oak brush. Some scattering cedar timber on both sides of line.
	Ascend abruptly over SE. slope of spur.
12.00	Top of high ridge spur , 130 ft. above sec. cor., bears NE. and S.70°W.
	Thence along N. slope near top of spur , through dense oak brush.
37.00	Top of same ridge , bears NW. and SE. Old drag road on top of ridge , bears NW. and SE.
	Descend abruptly over W. slope.
40.02½	A westing of 40.00 chs.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for standard ¼ sec. cor., with brass cap marked
	S33 / ¼
	1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Thence over broken land sloping S. and SW.
47.50	Enter scrub red cedar timber , bears N. and S.
52.00	Ravine , 180 ft. below ¼ sec. cor., course SW. Enter pinon pine timber.

Re-survey of the 3 rd. Standard Parallel South , through R.1 E.

chains	
	Ascend E. slope of spur.
61.50	Spur , 160 ft. above ravine , projects SW.
	Descend
66.80	Ravine , 90 ft. below spur , course S.25°W.
	Ascend abruptly.
76.70	Spur , 130 ft. above ravine , course SW.
	Descend abruptly on W. slope over series of small conglomerate sandstone ledges.
80.05	A westing of 80.00 chs., 125 ft. below spur.
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for standard cor. of secs. 32 and 33 with brass cap marked
	T 15 S | R 1 E
	S 32 | S 33
	1914
	from which
	An oak , 6 ins. diam., bears N.6¼°W., 20 lks. dist., marked T 15 S R 1 E S 32 B T
	An oak , 5 ins. diam., bears N,19¾°E., 97 lks. dist., marked T 15 S R 1 E S 33 B T.
	Note: On account of underlying rock , I am unable to set post in the ground.
	Land , rough broken mountains draining SW. into Little Salt Creek.
	Soil , generally rocky of red sandstone formation on rocky sub-soil ; 4'th. rate.
	Timber , scattering scrub cedar and pinon.
	Undergrowth , oak , sage , service and buck brush

	S.87°54'W., on S. bdy. sec. 32
	Over mountainous land draining S. into Little Salt Creek through dense undergrowth of oak and sage brush.
	Descend abruptly over W. slope.

Re-survey of the 3 rd. Standard Parallel South , through R.1 E.

chains	
4.00	Draw , 50 ft. below sec. cor., drains SW.
	Ascend.
6.50	Spur , 40 ft. above draw , projects S.20°W.
	Descend abruptly over W. slope into Little Salt Creek.
12.00	Base of steep descent , enter bottom of Little Salt Creek canyon ; bears N.80° W. and S.80°E.
	Gradually descend through dense oak brush
25.00	Little Salt Creek , 12 lks. wide , 7 ins. deep , good water , in wash 40 lks. wide , 15 ft. deep , 125 ft. below spur , course N.70°W.
33.00	Leave canyon bottom , bears NW. and SE.
	Ascend over NE. slope
36.00	Stream , 2 lks. wide , 1 in. deep , good water , in wash at mouth of ravine , course N.
40.02½	A westing of 40.00 chs., 35 ft. above Little Salt Creek.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for standard ¼ sec. cor., with brass cap marked
	S 32 / ¼ / 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
40.35	The old standard cor. of secs. 32 and 33 heretofore described. I destroy all of the marks on this stone that pertain to secs.32 and 33 and set stone 15 ins. in the ground for angle point cor., marked A P on N. face , raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Thence
	S.89° 59'W., with continuous chaining
41.50	Spur , 25 ft. above angle cor., projects N.30°E.
	Thence over broken land sloping N. into Little Salt Creek.
	Descend.
46.80	Bottom of small ravine , 45 ft. below spur , course N.

Resurvey of the 3rd Standard Parallel South, through R.1 E.

Chains. Gradually ascend.

62.40 Spur, 35 ft.above ravine, course N.20° E.

Descend over W slope.

75.00 Bottom of ravine, 110 ft.below spur, course N.

Ascend abruptly over E.slope.

80.02½ A westing of 80.00 chs., 80 ft.above ravine,

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

T 15 S | R 1 E
S 31 | S 32
1914

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

Land, mountainous, draining S.into Little Salt Creek on E.12 chs., and N.into same creek on W.68 chs.General drainage of country to the NW.

Soil, gravelly and loose shale rocks with some hard baked clay,on gravelly and clay subsoil;4th rate.

Timber, some scattering cedar and pinon.

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

S.89°59'W.on S.bdy.sec.31,

Over rough broken mountains facing and draining N.into Little Salt Creek, through dense undergrowth of oak and sage brush . Ascend E.slope of spur.

6.40 Spur, 60 ft.above sec.cor., projects NE. Descend.

10.50 Ravine, 65 ft.below spur, course NW. Enter scrub cedar timber, bears N.and S. Gradually ascend.

23.00 Spur, 50 ft.above ravine,projects N.15° W. Descend abruptly.

28.50 Ravine, 118 ft.below spur, course NW.Gradually ascend.

35.00 Spur, 30 ft.above ravine, projects NW.

Descend abruptly over gypsum ledges.

37.80 Ravine, 100 ft.below spur, course N. Ascend.

40.00 On steep N.slope, 40 ft.above ravine,

Resurvey of the 3rd Standard Parallel South, through R.1 E.

Chains. Set an iron post, 3 ft.long, 1 in.in dia., 24 ins.in the ground, for standard $\frac{1}{4}$ sec.cor., with brass cap marked $\frac{S\ \frac{1}{4}\ 31}{1914}$ raise a mound of stone, 2 ft.base, 1½ ft.high N.of cor.

54.50 Spur, 40 ft.above $\frac{1}{4}$ sec.cor., projects N.

Descend abruptly 80 ft.to

57.80 Ravine, drains N. Ascend.

61.60 Spur, 55 ft.above ravine, projects N.

Descend abruptly 90 ft.to

65.00 Ravine, drains N.10° E. Ascend abruptly.

66.80 Spur, 50 ft.above ravine, projects N.20° E.

Descend abruptly 120 ft.to

70.60 Ravine, course N. Ascend abruptly.

73.15 Spur, 96 ft.above ravine,projects N.

Descend abruptly.

77.30 Ravine, 90 ft.below spur, course N.Ascend abruptly.

84.45 Spur, 100 ft.above ravine, projects N.15° E. Descend.

88.70 Ravine, 110 ft.below spur, course N.30° E.Ascend abruptly.

89.90 Spur, 40 ft.above ravine,projects N.30° E. Descend.

93.00 Base of spur, 90 ft.below top; enter bottom of Little Salt Creek;thence over rolling land in canyon.

113.00 Enter dense undergrowth of sagebrush,bears NE. and SW.

119.63 Intersect the standard SWs. cor. of T.15 S., R.1 E., heretofore described.

Land, rough, broken mountains, draining N.into Little Salt Creek.

Soil, gravelly, rocky and some gypsum on hard clay and gravel subsoil; 4th rate.

Timber, scrub cedar and pinon.

Underbrush, dense oak, sage,service and buck brush.

For general description see subdivision of T.15 S., R. 1 E.

Survey commenced June 25,1914 and executed with Young and Sons light mountain transit No. 8517, with solar attachment. The horizontal limb is provided with two double verniers, placed opposite to each other and readingto single minutes of arc, which is also the least count of the verniers of the lat. and decl.arcs. The instrument was approved for use in this survey by the Assistant Supervisor of Surveys for Utah.

I examine the adjustments of the transit and find no 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 determined by observations made on Polaris, I proceed as follows:

At the standard SW. cor. of T.15 S.,R.1 E. heretofore described in approximate lat. 39°28'N.; longitude 111°54'W., I set off 39° 28' on the lat. arc; 23° 25' N. on the decl. arc; and at 5h. p.m. apparent time determine with the solar a meridian and note that a dead limb on a tree bears N.1°06'E.

At 7h. 51m.p.m.l.m.t., I observe Polaris in accordance with the Manual of Instructions and note that an angle to the tree is 0° 52' to the east.

Correct L.M.T. of obsn.June 25,1914 ---	7h.51m. p.m.
L.M.T.of U.C.Polaris June 25,1914 reduced to long. 111° 54'	7h. 17m.a.m.
Time elapsed bet.U.C.Pol.to obsn.	12h. 34m.
Subtract	11h. 58m.
Hour angle of Polaris at obsn.	0h. 36m.
Azimuth of Polaris at obsn.	N.0° 14'E.

The angle of 14' plus 52' = 1°06' or N.1°06'E., the true bearing of the tree which agrees with the solar observation made this p.m. June 25,1914.

June 26: At 7h. a.m. apparent time, I set off 39°28' on the lat. arc; 23° 24'N., on the decl. arc; and determine a meridian with the solar and find that the limb on the tree observed June 25, bears N.1°06'E.

The solar meridians determined during a.m. and p.m. hours agree with the Polaris meridian, and I therefore

Retracement and resurvey of the Salt Lake Meridian through T.15 S.

chains	
	conclude that the instrument is in good adjustment. The magnetic bearing of the true meridian at 7h. 30m.a.m. is N.16°45'W., the angle thus determined gives the magnetic decl. 16°45'E
	A steel tape 5 chs. long was used in the field work of this line, together with a clinometer for determing slope angles and the reduced horizontal distances only appear in the field notes. The tape was tested before the commencement of the survey, comparison being made with a standard tape, 1 ch. long, kept for that purpose.
	In the decl. arc settings, .80 of the tabulated refractions for computing declinations is used, due to the altitude of the country which is about 6000 ft.
	I begin at the closing cor. of Tps. 15 and 16 S., R.1 W. which is a sandstone 14 x 12 x 3 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.
	Thence,
	North, on retracement line along E.bdy.sec.36,T.15S.,R.1W.
4.65	The standard SW. cor. of T.15 S.,R.1 E.
	Thence
	N.1°30'W., with continuous measurement.
44.27	After careful search I am unable to find any trace of the ¼ sec. cor. W.bdy.sec. 31, T.15 S.,R.1 E., I therefore continue my line N.1°30'W. making careful searches for the closing cor. of secs. 25 and 36 and 24 and 25, T.15 S.,R.1 W. and the cor. of secs. 30 and 31, ¼ sec. cor. W. bdy. sec. 30 and the cor. of secs. 19 and 30, T.15 S.,R.1 E. without finding any evidence of these cors. whatever.
120.00	June 26: At this station, I set off 23° 23'N. on the decl. arc; and at apparent noon obs. the sun on the meridian; the resulting lat. is 39°29'.
202.07	Fall 333 lks. E. of the ¼ sec. cor. bet. secs. 19 and 24

Retracement and resurvey of the Salt Lake Meridian through T.15 S.

chains	
	which is a limestone, 15 x 12 x 4 ins. lying on the ground, marked ¼ on one face and witnessed by a few scattered stones about the cor.
	I re-set this stone, 10 ins. in the ground, with the marks on W. face and set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground alongside old cor. for ¼ sec. cor., with brass cap marked S24¼ | S19 / 1914 raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	This falling answers to a correction of 0°58' or 133 lks. W. per mile counting from the SW. cor. of T.15 S.,R.1 E.
	June 26,1914.

	April 24,1919: I begin at the closing cor. of Tps. 15 and 16 S.,R.1 W.
	Thence
	North, resurveying on the E. bdy. sec. 36, T.15 S.,R.1 W.
	Descend over N. slope of mountainous land through undergrowth of oak and sagebrush and scattering cedar and pinon timber.
4.00	Enter rolling bottom of Little Salt Creek Canyon, bears E. and W. Land subject to overflow.
4.65	The standard SW. cor. of T.15 S.,R.1 E. heretofore described.
	Thence
	N.2° 28'W., with continuous measurement.
5.65	Wash, 75 lks. wide, 3 ft. deep, course W. This is probably the old channel of Little Salt Creek.
9.65	Little Salt Creek, 10 lks. wide, 8 ins. deep, good water, course S.80°W. Wagon road in canyon, bears NE. and SW. and crosses creek at this point.
10.25	Leave canyon and undergrowth, bears N.80°E. and S.80°W. Ascend abruptly S. slope covered with loose shale rock.
18.15	Spur, 200 ft. above creek, projects SW.; descend abruptly.
20.15	Ravine, near head, 60 ft. below spur, course SW.; ascend abruptly.
40.05	Ridge, 700 ft. above creek, bears E. and W. Enter cedar and pinon timber and oak and buck brush undergrowth.

chains	
41.41½	Descend over N. slope, 40 ft. to Proportionate measurement. Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor. E. bdy. sec. 36, T.15 S., R.1 W., with brass cap marked S36¼ | 1914 from which A pinon, 10 ins.diam.,bears West, 28 lks. dist.,marked ¼ S 36 B T A pinon, 6 ins.diam.,bears S.50°W., 28 lks. dist.,marked ¼ S 36 B T
44.80	Ravine, 50 ft. below ¼ sec. cor., course W.; gradually ascend over SW. slope.
51.32	A southing of 40.00 chs. from the cor. of secs. 30 and 31, T.15 S.,R.1 E. Set a limestone, 18 x 10 x 6 ins., 12 ins. in the ground, marked ¼ on E. face, for ¼ sec. cor. W. bdy sec. 31, T.15 S.,R.1 E.; from which A pinon, 12 ins.diam.,bears N.30°E., 42 lks. dist.,marked ¼ S 31 B T No other tree available. Raise a mound of stone, 2 ft.base, 1½ ft. high,E.of cor. Note: Iron post not available for cor.
65.10	Ridge, 125 ft. above ravine, bears N.25°W. and SE.;desc.
71.65	Ravine, 75 ft. below ridge, course N.20°W.; gradually ascend over land sloping nearly W.
82.83	Proportionate measurement. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for closing cor. of secs. 25 and 36, T.15 S., R.1 W., with brass cap marked T15S / R1W | R1E / S30 / CC S25 | S31 / S36 / 1914 from which A pinon, 15 ins.diam.,bears S.19°W., 117 lks. dist.,marked C C T 15 S R 1 W S 36 B T A pinon, 17 ins.diam.,bears N.69°W., 219 lks.

chains	
	dist.,marked C C T 15 S R 1 W S 25 B T
	Cor. stands on steep W. slope near top of spur.
	Land, mountainous with steep N. and S. slopes of ridges into ravines draining W.
	Soil, loose shale rock and hard, dry, baked blue clay on dry clay and shale sub-soil; 4th. rate.
	Timber, scrub cedar and pinon.
	Undergrowth, oak, service and sagebrush.

	N.2° 28'W., on E. bdy. sec. 25, T.15 S.,R.1 W.
	Over rough mountainous land draining W., through cedar and pinon timber and undergrowth of service berry and buck brush. Gradually descend along W. slope of spur.
5.80	Top of spur, projects NW.; descend over NE. slope.
8.53	The c.c. of secs. 30 and 31, T.15 S.,R.1 E.
9.95	Top limestone ledge, 20 ft. high,bears E. and W.; descend abruptly.
12.95	Ravine, 150 ft. below spur, course W.; ascend abruptly.
22.15	Spur, 125 ft. above ravine, projects W.;descend abruptly.
32.40	Ravine, 100 ft. below spur, course W.; ascend.
36.20	Spur, 75 ft. above ravine, projects NW.;gradually descend.
39.49½	Propprtionate measurement
	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor. E. bdy. sec. 25, T.15 S., R.1 W., with brass cap marked
	S25¼ | 1914
	from which
	A cedar, 10 ins.diam.,bears S.70°W., 12 lks. dist.,marked ¼ S 25 B T
	A cedar, 5 ins.diam.,bears N.23½°W.,115 lks. dist.,marked ¼ S 25 B T
39.80	Descend abruptly.
43.30	Ravine, 50 ft. below spur, course W.; ascend 60 ft. to
45.50	Spur, projects W.; gradually descend.
48.57	Northing of 40.00 chs. from cor. of secs. 30 and 31.
	Set a granite stone, 18 x 10 x 4 ins., 12 ins. in the

chains	
	ground, marked ¼ on E. face for ¼ sec. cor. W. bdy. sec. 30, T.15 S.,R.1 E.; raise a mound of stone, 2 ft. base, 1½ ft. high, E. of cor.
	No suitable bearing trees are available. Iron post not available.
52.80	Ravine, 50 ft. below spur, course SW.; ascend S. slope.
56.00	Spur, 40 ft. above ravine, projects SW.; leave timber, thence gradually descend over W. slope through dense sagebrush undergrowth.
72.80	Ravine, 60 ft. below spur, course SW.; enter cedar and pinon timber, bears NW. and SE. Ascend.
77.60	Ridge, 50 ft. above ravine, bears E. and W.; descend over N. slope 80 ft. to
78.99	Proportionate measurement.
	Set a limestone, 18 x 8 x 6 ins., 12 ins. in the ground, for closing cor. of secs. 24 and 25, T.15 S.,R.1 W., marked with 4 grooves on N., 2 grooves on S. and CC on W. face; from which
	A cedar, 16 ins.diam.,bears S.4°W.,33 lks. dist.,marked C C T 15 S R 1 W S 25 B T
	A cedar, 24 ins.diam.,bears N.70°W., 59 lks. dist.,marked C C T 15 S R 1 W S 24 B T
	Iron post not available.
	Land, mountainous, drains W.Steep N. and S. slopes of spurs
	Soil, generally gravelly and rocky with some stiff clay; on hard, dry clay and shale rock subsoil; 3rd. rate.
	Timber, scrub cedar and pinon.
	Undergrowth, sage and buck brush.

	N.2° 28'W., on E. bdy. sec. 24, T.15 S.,R.1 W.
	Over mountainous land draining W., through scrub cedar and pinon timber and undergrowth of sage, oak and buck brush. Descend over N. slope of ridge.
.40	Proportionate measurement.
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 19 and 30, W. bdy. T.15 S.,R.1 E., with brass cap marked

Retracement and resurvey of the Salt Lake Meridian through T.15 S.

chains	
	T15S S19 S30 R1E 1914
	from which A cedar, 24 ins.diam.,bears N.23½°E.,84 lks. dist.,marked T 15 S R 1 E S 19 B T A cedar, 7 ins.diam.,bears S.74°E., 34 lks. dist.,marked T 15 S R 1 E S 30 B T
23.80	Large ravine and wash, 20 lks. wide, 3 ft. deep, course NW., 125 ft. below closing cor.; thence over low, rolling foothills.
36.80	Leave foothills, cedar and pinon timber and oak and buck brush undergrowth; thence gradually descend over rolling ground sloping NW. through sagebrush and red top.
40.28	The ¼ sec. cor. bet. secs. 19 and 24 heretofore described. From this ¼ sec. cor. a house bears N.50° 25'E. Land, mountainous and rolling with general NW. exposure. Soil, gravelly, rocky and hard, dry, baked blue clay; on blue clay and gravelly sub-soil; 3rd. rate. Timber, scrub cedar and pinon. Undergrowth, sage, oak, buck and red top brush. April 24,1919.

	June 27,1914: At 8h.10m.a.m. apparent time, I set off 39°30' on the lat. arc; 23°22'N., on the decl. arc; and determine a meridian with the solar at the ¼ sec. cor. bet. secs. 19 and 24. Thence I run North, retracing the N.½ mile bet. secs. 19 and 24. Gradually descend over rolling ground sloping NW., through short undergrowth of sage and red top.
2.90	West 40 lks. from my line is the NW. edge of an old cabin. East 10 lks. from line is the SW. cor. of a fence bearing N. and E. Thence along W. side of fence.
12.00	Enter cultivated land, bears E. and W.

Retracement and resurvey of the Salt Lake Meridian through T.15 S.

chains	
18.90	Leave cultivated land, bears E. and W.
18.95	Wire fence, bears E. and W.
26.19	House, bears S.57°04'E..
40.34	Fall 15 lks. W. of the cor. of secs. 13,18,19 and 24, which is a limestone; 12 x 8 x 7 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general. I reestablish this cor. at the same point as follows:

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground alongside old cor. for cor. of secs. 13,18, 19 and 24, with brass cap marked

T 15 S

R1 W	R 1 E
S13	S18
S24	S19

1914

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

The true bearing of this ½ mile is therefore N.0°13'E., and the distance is 40.34 chs.

Land, rolling with a general W. exposure.

Soil, gravelly and light, dry, warm sandy clay rather dry; on gravelly and sandy sub-soil; 2nd. rate.

No timber.

Undergrowth, short sagebrush and red top.

Considerable land under cultivation.

N.0° 50'W., retracing bet. secs. 13 and 18.

Gradually descend over rolling land sloping gently to the W., through short undergrowth of sagebrush and red top.

.01 Wire fence, bears E., W. and S.

Retracement and re-survey of the Salt Lake Meridian through T.15 S.

chains	
3.30	Wash , 10 lks. wide , 2 ft. deep , course W.
19.70	Wire fence , bears E. and W. Cor. of fence , bears E. 20 lks. and [illegible] N.
	Thence along W. side of fence.
40.12	Fall 12½ lks. E. of the ¼ sec. cor., which is a gray granite stone , 6 x 8 x 5 ins. above ground , firmly set , and marked as described by the Surveyor General. No accessories to cor. I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground alongside old cor. for ¼ sec. cor., with brass cap marked
	S 13 ¼ | S 18
	1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , W. of cor.
	The true bearing of this ½ mile is therefore N.0° 52'W., and the distance is 40.12 chs.
	From the ¼ sec. cor. I continue N.0° 50'W.
1.15	Cor. of a wire fence 10 lks. E., bears NE. and S.
2.40	Center of county road from Levan , Utah to Gunnison , Utah , bears N.30°E. and S.30°W.
2.90	Cor. of a wire fence , bears N.30°E., S.30°W. and N.
	Thence along W. side of fence.
21.40	Cor, of fences , bears E.,W., and S.
	Enter dense undergrowth of white sage.
23.30	Wash , from Deep Canyon , 10 lks. wide , 2 ft. deep, course W.
34.00	Leave dense undergrowth , bears N. and S.
37.00	A small irrigation ditch , course from the E. to the N.
40.19	Fall 5 lks. E. of the cor. of secs. 7 , 12 , 13 and 18 which is a granite stone , 10 x 8 x 8 ins. above

chains

ground , firmly set , and marked as described by the Surveyor General. No accessories to cor. I re-establish cor. as follows:

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

T 15 S

R 1 W	R 1 E
S 12	S 7
S 13	S 18

S I 1914

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

The true bearing of this line is therefore N.0° 54'W., and the distance is 40.19 chs.

Land , gently rolling with a general W. exposure.

Soil , light , dry , warm sandy loam mixed with gravel on sandy and gravelly sub-soil ; 1 st. rate.

No timber.

Undergrowth , white sage and red top.

Considerable land now under cultivation.

N.0° 50'W., retracing bet. secs. 7 and 12

Gradually descend over nearly level land sloping gently NW. Cultivated land on both sides of line.

.01 From this point a house bears N.32°E.; barn bears N.43°20'E.; house bear N.49° 15'E.; granary bears N.47° 40' E.

.02 SE. cor. of fence , bears N. and W.

Thence along fence.

15.00 Wire fence , bears E. and W.

26.00 A shed bears W. 30 lks.

30.00 Fence , bears E. and W.

31.30 A resevoir , about 2 chs. in dia., bears E.1 ch.

Retracement and re-survey of the Salt Lake Meridian through T.15 S.

chains	
40.17	Wire fence , bears N.,E., and W. A fence bears S. 20 lks. W. of line.
	Fall 3½ lks. W. of the ¼ sec. cor. which is a cobble stone 18 x 12 x 9 ins., buired in the ground , marked ¼ on W. face. No accessories to cor. I re-establish cor. as follows:
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground alongside old cor. for ¼ sec. cor., with brass cap marked S 12 ¼ | S 7 | 1914
	This cor. stands at the cor. of a fence in the edge of of a cultivated field , I therefore do not build accessories to cor.
	The true bearing of this ½ mile is therefore N.0° 47'W., and the distance is 40.17 chs.
	From the ¼ sec. cor., House bears S.66°15'E., Granary bears S.67° 50'E., Barn bears S.74° 40'E., House bears N.88°E.
	From ¼ sec. cor. I continue N.0° 50'W.
	Along W. side of fence.
41.48	Leave cultivated land and fences bears E., W. and S. Thence across wide lane.
41.64	Telephone line , bears E. and W.
41.69	Wagon road , from Juab, Utah to Levan , Utah , bears E. and W.
41.94	Fall 2 lks. E. of the cor. of secs. 1 , 6 , 7 and 12 which is a porphyry stone , 4 x 5 x 5 ins. above ground , firmly set , and marked as described by the Surveyor General. No accessories to cor. I re-establish cor. as follows:
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for. cor. of secs.

Retracement and re-survey of the Salt Lake Meridian through T.15 S

chains	
	1 , 6 , 7 and 12 , with brass cap marked
	T. 15 S. / R 1 W | R 1 E / S 1 | S 6 / S 12 | S 7 / 1914
	dig pits , 18 x 18 x 12 ins. in each sec., 5½ ft. dist , raise a mound of earth , 4 ft. base , 2 ft. high , W. cor.
	This cor. stands on the S. side of the center of lane.
	The true bearing of this ½ mile is therefore N.0° 52'W., and the distance is 41.94 chs.
	Land , nearly level with a gentle W. exposure.
	Soil , rich sandy loam on sandy sub-soil ; 1 st. rate.
	No timber.
	Undergrowth , some sage brush along fences.

	N.0° 50'W., retracing bet. secs. 1 and 6.
	Over level land across lane.
.78	Leave lane and wire fences bears E., W. and N.
	Enter cultivated land , thence along W. side of fence.
18.40	Wire fence , bears E. and W.
38.37	Fall 1½ lks. W. of the ¼ sec. cor. which is a porphyry stone , 6 x 9 x 6 ins. above ground , firmly set , and marked as described by the Surveyor General. No accessories to cor. I re-establish cor. as follows:
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground alongside old cor. for ¼ sec. cor., with brass cap marked
	S 1 ¼ | S 6 / 1914 / Sec.

Retracement and Resurvey of the Salt Lake Meridian, through T. 15 S.

Chains.

This cor. falls at the cor. of fences bearing E., W., and S., with cultivated land on all sides, I therefore do not build any accessories to cor.

The true bearing of this half mile is therefore N. 0°49' W., and the distance is 38.37 chs.

From ¼ sec. cor., I continue

N. 0° 50' W.

Across plowed ground.

20.10 Cor. of fences bearing N., E., and W.

Leave plowed ground; enter wheat field.

40 .21 Fall 5 lks. W. of the cor. of Tps. 14 and 15 S., Rs. 1 E. and 1 W., which is a cobble stone 3 x 9 x 7 ins. above ground, firmly set, and marked as described by the surveyor general. No accessories to cor., I re-establish cor. as follows:

Set an iron post 3 ft. long, 3 ins. in dia., 24 ins. in the ground, alongside old cor., for cor. of Tps. 14 and 15 S. Rs. 1 E. and 1 W., with brass cap marked

T 14 S
S 36 | S 31
R 1 W | R 1 E
S 1 | S 6
T 15 S
1914

This cor. stands at the cor. of a fence bearing E., N. and S., with cultivated land on all sides; I, therefore do not build any accessories to cor.

The true bearing of this half-mile is therefore N. 0°46' W., and the distance is 40.21 chs.

Land, level.

Soil, rich sandy loam on sandy subsoil; 1st rate.

No timber. No undergrowth.

June 27: At this Tp. cor. I set off 23° 21' N. on the decl. arc; and at apparent noon observe the sun on the meridian; the resulting lat. is 39° 33'

June 27, 1914.

For general description see notes of the subdivision T. 15 S., R. 1 E.

Survey commenced June 27, 1914, and executed with a Young and Sons light mountain transit No.8517, with solar attachment, for description of instrument and approval of its use in this survey see notes of E.bdy. of this Tp.

I know the instrument to be in good adjustment, having tested it on a meridian determined by observations made on Polaris June 25, 1914:

I begin at the cor. of Tps.14 and 15 S., Rs.1 E. and 1 W. on the Salt Lake Meridian, heretofore described.

At 2h 0m p.m. apparent time, I set off 39° 33' on the lat. arc; 23° 21'N. on the decl. arc; and determine a meridian with the solar, at said Tp. cor.

Thence I run

N.88° 45'E., retracing bet. secs.6 and 31,

Gradually descending over level land; along N. side fence bearing N.88°45'E., and S.88° 45'W. Cultivated land on N. and S. sides of line.

20.00 Enter lane, bears N.88°45'E., and N.89°W., E. end of fence bears S. and S.88°45'W.

Thence in center of lane; wire fences bearing N.88°45'E. and S.88°45'W. N. and S. of line about 10 lks. dist.

34.80 Leave lane and wire fences, bearing N. and S.88°45'W.10 lks. N. of line and S. and S.88°45'W.10 lks. S. of line.

Thence across county road.

35.50 Center of county road, from Levan, Utah, to Gunnison, Utah, bearing N. and S.

36.20 Wire fence, bears N. and S. Intersection of fence from the E., bears 10 lks. S. Enter cultivated land.

Thence along fence.

40.07 Fall 2 lks. S. of the ¼ sec. cor., which is a porphyry stone, 8x3x4 ins. above ground, firmly set, and marked as described by the surveyor general. I re-establish this cor. by setting an iron post, 3 ft. long, 1 in. in dia. dia., 26 ins. in the ground, alongside old cor., for ¼ sec. cor., with brass cap marked

S 31
¼
S6
1914

Retracement and re-survey of the N.bdy. of T.15 S.,R.1 E.

chains

This cor. falls directly under a fence with cultivated land on both sides , I therefore do not build any accessories to cor.

The true bearing of this ½ mile is therefore N.88°43'E., and the distance is 40.07 chs.

From ¼ sec. cor. I run

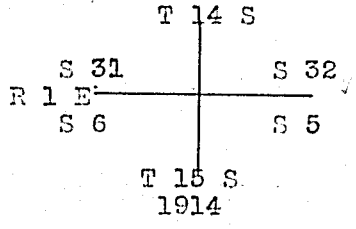
N.88° 45' E.

Gradually ascend along N. side of fence across cultivated land.

40.08 Fall 5 lks. N. of the cor. of secs. 5 , 6 , 31 and 32 which is a gray granite stone .14 x 9 x 8 ins. above ground , firmly set , marked as described by the Surveyor General. No accessories to cor.

I reestablish this cor. as follows:

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



This cor. falls in cultivated land under a fence bearing N.89°E. and S.89°W., and I therefore do not build any accessories to cor.

The true bearing of this ½ mile is therefore N.88° 49'E., and the distance is 40.08 chs.

Land level.

Soil , light , warm , rich , moist sandy loam on deep sandy sub-soil ; 1 st. rate.

No timber.

No undergrowth. Land all under cultivation , the general crops being alfalfa and wheat.

Retracement and re-survey of the N. bdy. of T.15 S.,R.1 E.

chains	
	N.88° 45'E., retracing bet. secs. 5 and 32.
	Gradually ascend over gently rolling land sloping W., through short undergrowth of sage brush.
2.40	Wash , 30 lks. wide , 7 ft. deep , course S. 85° W.
5.00	Thence along fence , bearing N.89°E. and S.89°W.
19.20	Fence , bears N. and S.
25.00	Enter low rolling foothills, bears NE. and SW.
	Begin steeper ascent.
40.10	Old road , bears N. and S.
40.17	At cor. of fences bearing N., S. and S.89°W.

I identify this as being the original point for the ¼ sec. cor. bet. secs. 5 and 32 , although the cor. stone cannot be found. At this point , set an iron post , 3 ft. long, 1 in. in dia., 24 ins. in the ground for ¼ sec. cor ., with brass cap marked

S 32
¼
S 5
1914

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

The true bearing of this ½ mile is therefore N.88°45'E., and the distance is 40.17 chs.

Land , low rolling foot hills with W. exposure.

Soil , light , fine , dry , warm sandy loam mixed with gravel on sandy and gravelly sub-soil ; 2 nd. rate.

No timber.

Undergrowth , short sage brush.

June 27 , 1914.

July 24 : At 7;30 a. m. apparent time , I set off 39°33' on the lat. arc ; 20° 00' N., on the decl. arc ; and determine a meridian with the solar at the ¼ sec. cor. on the S. bdy. sec. 35 , T.14 S., R. 1 E., which is a

chains

granite stone , 14 x 14 x 4 ins., lying on the ground marked ¼ on one face. No accessories to cor. I re-set this stone at same point , 10 ins. in the ground with marks facing to the N., and set an iron post , 3 ft. long , 1 in. in dia., 26 ins. in the ground alongside old cor. for ¼ sec. cor. on the S. bdy. sec. 35 , T. 14 S., R 1 E., with brass cap marked

S 35
¼
1914

from which

A maple , 8 ins. diam., bears N.24°W.,21½ lks. dist., marked ¼ S 35 B T

Note: Knowing that the falling of the closing subdivisional lines of T.15 S., R.1 E. will not intersect the N. bdy. of the tp. within limits and that closing cors. will be necessary , I therefore mark all cors. on this tp. line E. of the ¼ sec. cor. bet. secs. 5 and 32 for 2 secs. and ¼ sec. cors. referring to T.14 S. only.

Thence I run

N.89°W., retracing the W. ¼ S. bdy. sec. 35.

40.00 After a long and careful search , I am unable to find any trace of the cor. of secs. 2 , 3 , 34 and 35. Set temp. point.

July 24 , 1914.

August 3 : At 7;30 a. m. apparent time I set off 39° 33' on the lat. arc ; 17° 39' N., on the decl. arc ; and determine a meridian with the solar at the temp. point for. cor. of secs. 2 , 3 , 34 and 35.

Thence I run , with continuous chaining from ¼ sec.cor.S. bdy. sec. 35
N.89°W., retracing on the S. bdy. sec. 34.

80.00 After a long and careful search , I amunable to find any trace of the ¼ sec. cor. Therefore I continue

N.89°W.

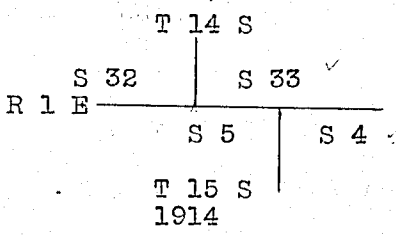
120.00 No trace of the cor. of secs. 3 , 4 , 33 and 34 can be found.

Retracement and re-survey of the N. bdy. of T.15 S.,R.1 E.

chains	
	August 3: I was enroute between transit stations at noon observations for lat. were impossible.
160.00	No trace of the ¼ sec. cor. S. bdy. sec. 33 can be found.
200.00	No trace of the cor. of secs. 4 , 5 , 32 and 33 can be found.
	Cease work.
	August 3 , 1914.
	August 4 : At 8 : 15 a. m. apparent time , I set off 39° 33' on the lat. arc ; 17° 23' N., on the decl. arc; and determine a meridian with the solar at my station 200.00 chs. W. of the ¼ sec. cor. on the S. bdy. sec. 35.
	Thence I continue
	N.89°W., retracing on S. bdy. sec. 32.
236.04	Fall 226 lks. S. of the ¼ sec. cor. bet. secs. 5 and 32 heretofore described.
	This falling answers to a correction of 0° 33' or 37 2/3 lks. N. per ½ mile counting from the ¼ sec. cor. on the S. bdy. sec, 35 , therefore I run
	S.88° 27'E., on E.½ mile S. bdy. sec. 32 , marking and blazing true line.
	Over mountainous land draining NW., through dense undergrowth of sage and scattering patches of oak and buck brush.
	Ascend over W. slope ridge
8.30	Top of ridge , 140ft. above ¼ sec. cor., bears N. and S.
	Enter scattering pinon and cedar timber and leave dense undergrowth.
	Descend abruptly.
9.60	Ravine , 30 ft. below ridge , course N.
	Ascend over low point
14.08	Enter small ravine from the E., course NW.
15.85	Leave ravine , turns NE.
	Ascend W. slope.
20.45	Ridge , 55 ft. above ravine , bears NW. and SE.

Retracement and re-survey of the N. bdy. of T.15 S., R.1 E.

chains	
	Descend abruptly
23.86	Ravine , 95 ft. below ridge , course N.
	Thence gradually ascend along N. slope ridge through dense brush
39.34	Proportionate measurement , 75 ft. above ravine
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in a mound of stone and earth , 4 ft. base , 2 ft. high for cor. of secs. 32 and 33 , S. bdy. T.14 S.,R.1 E., with brass cap marked



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

Note : On account of natural obstacles , I am unable to set post in the ground.

Land , mountainous draining NW.

Soil , generally rocky of sandstone formation on rocky sub- soil ; 3 rd. rate.

Timber , scattering scrub pinon and cedar.

Undergrowth , sage , buck , oak and service brush .

S.88° 27'E., on S. bdy. sec. 33

Over rough mountainous land draining NW., through scrub pinon and cedar timber and undergrowth of buck , oak service and sage brush.

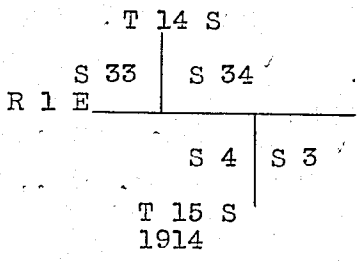
Ascend abruptly over steep NW. slope ridge.

17.28	Ridge , 340 ft. above sec. cor., bears N. and S.
	Descend.
19.30	Ravine , 30 ft. below spur , course N.
	Ascend 50 ft. to
23.70	Top of spur , projects N.
	Descend NE. slope

chains	
25.85	Ravine 20 ft. below spur , course NW.
	Ascend abruptly over W. slope.
31.50	Spur , 140 ft. above ravine , projects N.
	Gradually descend over E. slope.
38.50	Descend abruptly over E. slope through dense brush
39.34	Proportionate measurement.
	Set an iron post , 3 ft. long , 1 in. in dia., 24 ins. in the ground for $\frac{1}{4}$ sec. cor. on S. bdy. sec. 33 , with brass cap marked
	S 33 / $\frac{1}{4}$
	1914
	raise a mound of stone , 2 ft. base , $1\frac{1}{2}$ ft. high , N. of cor.
	Continue descent.
46.50	Bottom of ravine 110 ft. below spur , course N.20°W.
	Ascend abruptly over W. slope spur.
52.35	Top of spur covered with gypsum , 200 ft. above ravine , projects N.35°W.
	Gradually descend
56.70	Small ravine , course N.35°W.
	Ascend abruptly
58.30	Spur , 35 ft. above ravine , projects N.35°W.
	Leave brush , descend abruptly over E. slope covered with loose slide and shale rock.
61.25	Ravine ,110 ft. below spur , course N.
	Enter scattering short undergrowth of oak and buck brush.
	Ascend nearly W. slope covered with loose shale rock.
70.00	Spur , 210 ft. above ravine , projects N.
	Descend abruptly , enter dense undergrowth of oak , service and buck brush
72.82	Ravine , 105 ft. below spur , course N.
	Gradually ascend
75.45	Spur , 15 ft. above ravine , projects N,
	Descend over NE. slope.

Retracement and re-survey of the N. bdy. of T.15 S.,R.1 E.

chains	
78.55	Ravine , 35 ft. below spur , course NW.
	Ascend.
78.68	Porportionate measurement .
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of secs. 33 and 34 , with brass cap marked



	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Land , rough broken mountains draining N., forming S. wall of Chicken Creek Canyon.
	Soil , generally rocky and loose shale rocks on rocky sub-soil ; 4 th. rate.
	Timber , scattering scrub pinon and cedar.
	Undergrowth , oak , service and buck brush.

	S. 88° 27'E., on S. bdy. sec. 34
	Over rough broken N. face of mountain draining N. into Chicken Creek , through dense undergrowth of oak , service and buck brush.
	Ascend
2.70	Spur , 40 ft. above sec. cor., projects N.
	Descend over E. slope.
7.40	Ravine 100 ft. below spur , course N.
	Ascend over W. slope.
11.80	Spur , 90 ft.above ravine , projects N.
	Descend over E. slope.
13.40	Ravine 40 ft. below spur , course N.
	Ascend abruptly

Retracement and re-survey of the N. bdy. of T.15 S.,R.1 E.

chains	
16.40	Spur , 100 ft. above ravine , projects N.
	Descend abruptly over E. slope.
23.00	Descend more gradually.
29.90	Ravine , 264 ft. below spur , course N.
	Ascend over NW. slope through exceptionally dense oak brush
39.34	Proportionate measurement , 200 ft. above ravine on steep NW. slope.
	Set an iron post , 3 ft. long , 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., on S. bdy. sec. 34 , with brass cap marked
	S 34 / ¼ / 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Continue steep ascent.
41.35	Top of high spur , 30 ft. above ¼ sec. cor., projects N.
	Descend over E. slope through dense oak brush
53.00	Ravine , 350 ft. below spur , course N.20°E.
	Gradually ascend.
58.60	Spur , projects N.
	Descend abrupply
65.50	Ravine , 165 ft. below spur , course N.
	Ascend abruptly over W. slope.
75.10	Spur , 225 ft. above ravine , projects N.
	Leave dense undergrowth , descend abruptly over steep E. slope , loose shale rock.
78.68	Proportionate measurement , 112 ft. below spur
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground for cor. of secs. 34 and 35 , with brass cap marked

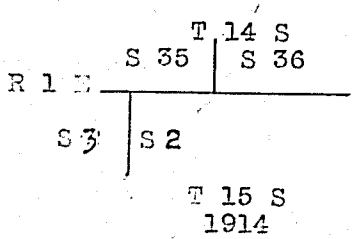
T 14 S
S 34 | S 35
R 1 E
S 3 | S 2
T 15 S
1914

Retracement and re-survey of the N. bdy. of T.15 S.,R.1 E.

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Land , rough broken mountains draining N., forming the S. wall of Chicken Creek canyon.
	Soil , gravelly , rocky and clay , packed very hard on clay and shale sub-soil ; 4 th. rate.
	No timber.
	Undergrowth , dense oak , buck and service brush.

	S.88° 27'E., on S. bdy. sec. 35
	Over rough mountainous land draining N. on S. side of Chicken Creek canyon , through dense undergrowth of oak , service , and buck brush
	Descend abruptly over E. slope spur.
5.07	Bottom of ravine , 165 ft. below spur , course N.
	Ascend abruptly over NW. slope.
14.80	Spur , 160 ft. above ravine , projects N.
	Thence gradually descend over broken land sloping NE.
37.75	Bottom of Chicken Creek canyon , 195 ft. below spur , bears NW. and SE.
	Leave oak , service and buck brush , thence through cottonwood and maple timber in canyon bottom.
38.40	Chicken Creek , 10 lks. wide , 4 ins. deep , good water , course NW.
39.34	The ¼ sec. cor. on the S. bdy. sec. 35 heretofore described.
	Land , mountainous , draining N. into Chicken Creek,
	Soil , gravelly and sandy mixed with loose shale rock on gravelly and sandy sub-soil ; 3 rd. rate.
	Timber , a few cottonwood and maple in canyon bottom.
	Undergrowth , oak , service and buck brush.
	August 4 , 1914
	--- ---

chains	
	July 24 : For solar observation see retracement of the W.½ mile , S. bdy. sec. 35 , T.14 S.,R.1 E.
	From the ¼ sec. cor. on the S. bdy. sec. 35 , heretofore described , I run
	S.89° 30' E., retracing the E.½ mile S. bdy. sec. 35
	Over level land in bottom of Chicken Creek canyon , through cottonwood and maple timber.
2.25	Road in canyon , bears NW. and SE.
2.50	Leave canyon bottom and maple and cottonwood timber , bears NW. and SE. , enter dense oak and service brush and scattering scrub cedar timber.
	Ascend from canyon over broken sandstone ledges.
14.00	Top of rocky spur , 125 ft. above canyon , projects. S.
	Descend abruptly.
16. 20	Ravine , 65 ft. below spur , course SW. Leave brush
	Ascend abruptly over SW. slope covered with loose shale rock.
21.20	Spur , 135 ft. above ravine , projects SE.
	Enter dense oak and scattering sage brush.
	Descend NE. slope of spur.
30.96	Ravine , 175 ft. below spur , course S.
	Ascend abruptly 125 ft. over SW. slope spur to
40.72	Fall 41 lks. S. of the cor. of secs. 1 , 2 , 35 and 36 which is a granite stone , 17 x 10 x 4 ins. above ground , firmly set and marked and witnessed as described by the Surveyor General. I re-establish this cor. as follows:
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for cor. of secs. 35 and 36 , with brass cap marked



1914

chains	
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	The true bearing of this ½ mile is therefore N.89°55'E., and the distance is 40.72 chs.
	Land , mountainous , draining S. into Chicken Creek which drains NW.
	Soil , generally rocky of limestone formation with some hard , dry , baked clay on rocky sub-soil ; 4 th. rate.
	Timber , scattering scrub cedar. Some cottonwood and maple in bottom of canyon.
	Undergrowth , oak , sage and service brush.
	July 24 , 1914

	July 25 : At 8 h. a. m. apparent time I set off 39° 33' on the lat. arc ; 19° 47' N., on the decl. arc ; and determine a meridian with the solar at the cor. of secs. 35 and 36.
	Thence I run
	East , retracing on the S. bdy. of sec. 36
40.00	After a long and careful search I am unable to find any trace of the ¼ sec. cor.
77.38	Fall 1.85 chs. N. of the cor. of Tps. 14 and 15 S., Rs. 1 and 2 E., which is a sandstone 8 x 11 x 8 ins. above ground , firmly set. and marked as described by the Surveyor General. No accessories to cor.
	I re-establish this cor. at the same point for SE. cor. of T.14 S., R.1 E., as follows:
	Set an iron post , 3 ft. long , 3 ins. in dia., 24 ins. in the ground alongside old cor. for SE. cor. T.14 S., R. 1 E., with brass cap marked

Retracement and re-survey of the N. bdy. of T.15 S.,R. 1 E.

chains	
	T 14 S R 1 E S 36 R 2 E S 31 S 1 T 15 S R 1 E 1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , NW. of cor.
	Note: I destroy all marks on old cor. pertaining to T.15 S., R. 1 E. and T.14 S., R. 2 E.
	The true bearing of this line is therefore S.88° 38'E., and the distance is 77.40 chs.
	I return to the cor. of secs. 35 and 36
	Thence I run
	S.88° 38'E., re-surveying on the S. bdy. sec. 36
	Over rough mountainous land draining S., through dense undergrowth of sage , oak and service brush.
	Ascend abruptly over SW. slope of spur.
2.60	Top of spur , 50 ft. above sec. cor., bears N. and S.
	Descend abruptly over steep E. slope of spur.
11.00	Ravine , 231 ft. below spur , course S.
	Ascend abruptly.
14.74	Top of steep ascent , 130 ft. above ravine , thence gradually ascend over W. slope through dense undergrowth of oak brush.
31.00	Begin ascent over series of broken sandstone ledges bearing N. and S.
38.70	Proportionate measurement. Point for ½ sec. cor. falls on W. face sandstone ledge where cor. cannot be set.
38.80	Enter scattering cedar timber , bears N. and S.
39.01	Set an iron post , 3 ft. long , 1 in. in dia., 26 ins. in a mound of stone and earth , 4 ft. base , 26 ins. high for witness cor. to the ½ sec. cor., with brass cap marked

chains	
	T 14 S R 1 E S 36 W C ¼
	1914
	raise a mound of stone , 2 ft. base , 1½ ft. high , N. of cor.
	Note: On account of underlying rock , I am unable to set post in the ground.
	July 25 : At this cor. I set off 19° 44' N., on the decl. arc ; and at apparent noon observe the sun on the meridian ; the resulting lat. is 39° 33'.
	Leave dense oak brush , enter undergrowth of mahogany and buck brush.
45.53	Top of sharp rocky spur , 125 ft. above ¼ sec. cor. and 1000 ft. above ravine to the W., projects S.
	Descend over broken ground.
50.40	Ravine , 80 ft. below spur , course SW.
	Ascend abruptly over series of sandstone ledges and W. breaks of high mountain.
62.80	Top of perpendicular sandstone ledge 50 ft. high and brink of mountain , 355 ft. above ravine , bears N. and S.
	Leave ledges and enter dense oak brush.
	Gradually ascend over broken ground sloping S.
70. 20	Spur , 35 ft. above brink of mountain , projects S.
	Descend.
71.90	Ravine , drains S.
	Thence gradually ascend over land sloping nearly S.
77.40	The SE cor. of T.14 S., R.1 E., heretofore described.
	Land , rough broken mountains draining SW. and having steep , E., W. and S. slopes.
	Soil , rocky and considerable bare surface rock of red sandstone formation on rocky sub-soil ; 4 th.rate.
	Timber , scattering scrub cedar and pinon on E.½ mile.
	Undergrowth , oak , sage , mahogany and buck brush.
	July 25,1914

Retracement and Resurvey of the N. bdy. of T.15 S.,R.1 E.

BOUNDARIES OF T.15 S., R. 1 E.

Latitudes , Departures and Closing errors.

Lines designated	True bearing	Distances	Latitudes		Departures	
			N.	S.	E.	W.
N.bdy.sec.1 , T.16S.,R.1 E.	West	79.37				79.37
N.bdy.sec.2 , T.16 S.,R.1 E	S.89°48'W.	80.48		.28		80.48
N.bdy.sec.3 , T.16 S.,R.1 E	S.88°38'W.	79.78		1.90		79.75
C.C.secs.3 and 4 to old Stan. cor.32 and 33	S.87°54'W.	120.80		4.43		120.72
Old Stan.cor.tp Tp. cor.	S.89°59'W.	159.30		.04		159.30
West.bdy.15-1	N.2°28'W.	197.45	197.27			8.50
" " "	N.0°13'E.	40.34	40.34		.15	
" " "	N.0°52'W.	40.12	40.11			.61
" " "	N.0°54'W.	40.19	40.19			.63
" " "	N.0°47'W.	40.17	40.16			.55
" " "	N.0°52'W.	41.94	41.93			.63
" " "	N.0°49'W.	38.37	38.36			.55
" " "	N.0°46'W.	40.21	40.20			.54
S.bdy.14S.R.1E.	N.88°43'E.	40.07	.90		40.06	
"	N.88°49'E.	40.08	.83		40.07	
"	N.88°45'E.	40.17	.87		40.16	
"	S.88°27'E.	236.04		6.38	235.95	
"	N.89°55'E.	40.72	.06		40.72	
"	S.88°38'E.	77.40		1.85	77.38	
E.bdy.14S.R.1E.	North	31.10	31.10			
N.bdy.15S.R.1E	East	56.20			56.20	
E.bdy.15S.R.1E.	South	497.74		497.74		
Convergency					.59	
Totals			512.32	512.68	531.28	531.63
				512.32		531.28
Errors				.36		.35

For General Description see subdivision of T.15 S.,R.1 E.

For final oaths of assistants and surveyor see subdivision of T.18 S.,R.3 E.

Destroyed all corners of rejected survey.

Howard M Keller
U.S. Surveyor.

General Description

Chains

With the exception of the NW. ¼ of sec. 6, W. ½ secs. 7, 18 and 19, this township is very rough and mountainous, lying on the W. slope of a spur of the Wasatch mountains and has a general W. exposure. Through the township high ridges and ravines extend in an easterly and westerly direction; from the ridges spurs project in a N. and S. direction and into the deep ravines smaller ones drain N. and S. The depth of these ravines ranges from 500 ft. in the east postion of the township to 2000 ft. at their mouth which is in the western part. The eastern 2 ranges of secs. lie on the top of the W. slope of the mountain; the remaining part breaks off to the west and extends to Juab Valley on the W. bdy.

The soil ranges from surface rock to a rich black and sandy loam. The soil of the two east ranges of secs. with the exception of a small portion in secs. 24 and 25 is very rocky, of a red conglomerate sandstone formation, and may be classed as 4th rate. Approaching the western part the soil is quite rocky, especially on the steep slopes of the ridges, but with this soil is a considerable amount of rich, moist black loam and decayed vegetation. In some parts, especially in the SW. and W. central part a considerable amount of light, dry blue clay, packed very hard and mixed with shale rock of limestone formation is found. The soil of the NW. ¼ of sec. 6, W. ½ of secs. 7, 18 and 19 is a rich, dry, warm sandy loam mixed with gravel on deep sandy loam subsoil. The subsoil of the mountainous portion is generally a rich, moist black loam, packed very hard (this being due to the great amount of rainfall) and mixed with gravel and rocks.

On the N. slopes of the high ridges and on the 2 eastern ranges of secs. a considerable amount of valuable spruce, balsam fir and aspen timber is found, but generally the tp. is covered with a scattering scrub growth of cedar, pinon pine and mahogany timber, Dense

General Description

undergrowth of oak , service , maple , buck , choke cher and sage brush predominates in the tp. The land produces an abundant growth of rich nutritious grasses , excelle for grazing purposes.

The tp. is well watered , by Little Salt Creek in the S., Deep Canyon and its tributaries in the central and Chicken Creek in the NE., part of the tp., these stream flowing in a westerly direction through the tp. the water being used for irrigation in the tps. to the W. With the exception of a small salt spring in the SW.¼ of sec. 28 , the water is all very good comming from springs in the eastern part of the tp.

The previously surveyed land in the NW.¼ of sec.6 , W. ½ secs. 7 , 18 and 19 , is all under cultivation , and settlers living thereon. There are no other settlers in the tp.

I find prospects for ore in secs. 22 , 23 , 26 , 27 , 28 33 and 34 but no indications of same.

This tp. is best adapted for grazing of sheep and cattle.

Destroyed all corners of rejected survey.

Howard W. Miller,

U. S. Surveyor.

4—GSO

BOOK A-435

CERTIFICATE OF ASSISTANTS.

We, the undersigned, hereby certify upon honor that we assisted, to the best of our skill and ability, Howard W. Miller, U. S. Surveyor, during the periods and in the capacities stated opposite our several signatures, in surveying all those parts or portions of the retracement and re-survey of the Salt Lake Meridian through [illegible] range 1 east T.15 S.

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.	
Edward Nelson	June 25, 1914	June 27, 1914	chainman
Rutard Riley	June 25, 1914	June 27, 1914	chainman
Edward Jones	June 25, 1914	June 27, 1914	axman
William Fridrickson	June 25, 1914	June 25, 1914	axman
Russell Williams	June 25, 1914	June 27, 1914	cornerman

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

Howard W. Miller
U. S. Surveyor.

6—2761

See also book "H" T.15 S., R.3 E.

FINAL OATH OF UNITED STATES SURVEYOR.

I, Howard W. miller, U. S. Surveyor, do solemnly swear that, in pursuanc of special instructions received from the U. S. Surveyor General for Utah bearing date of the 19 th day of July, 191 3, 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 the retracement and re-survey of the Salt Lake Meridian., through T.15 S. of the Salt Lake Base and Meridian, in the State of Utah, 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 Utah and in the specific manner described in the field notes, and tha the foregoing are the original field notes of such survey.

Howard W. Miller
U. S. Surveyor.

Subscribed by said Howard W. Miller and sworn to before me this 4th day of February 1915

SEAL

M. C. Thorsen
U. S. Surveyor General
for Utah.

See also book "H" T.15 S., R.3 E.

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.

6—2764

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

BOOK A-435

FIELD ASSISTANTS.

~~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.
	Began.	Ended.	
Carl Ray			chainman
Edward Nelson			chainman
Edward Jones			chainman
Ras. Sornsen			chainman

The above assistants were employed in the survey of T.15 S., R.1 E. in 1916.

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

_____

~~U. S. Surveyor.~~

CERTIFICATE

FINAL ~~XXXXX~~ OF UNITED STATES SURVEYOR. & TRANSITM

We, Lyman E. Bolinger, U. S. Transitman

~~XX~~ Howard W. Miller, U. S. Surveyor, do ~~solemnly swear~~ certify on honor that, in pursuan of special instructions received from the U. S. Surveyor General for Utah, bearing date of the 15th. day of September, 191 6, we have well, faithfully, and trul in our 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 the subdivision of T.15 S.,R.1 E. of the Salt Lake Base and Meridian, in the State of Utah, which are represented i the foregoing field notes as having been executed by us, and under our direction; and ~~I do furthe~~ certify on honor 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 Utah and in the specific manner described in the field notes, and tha the foregoing are the original field notes of such survey.

April 20,1917

Howard W. Miller
U. S. Surveyor.

Lyman E. Bolinger
U. S. Transitma

~~Subscribed by me~~ and sworn to before me this ~~day of~~ day of

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 22, 191 8.

The foregoing field notes of the ~~survey of~~ retracement, resurvey, and survey of the subdivisional lines of Township No.15 South, Range No.1 East; re-tracement and resurvey of Third Standard Parallel South, through Range No.1 East; retracement and resurvey of the Salt Lake Meridian, Townshi No.15 South; and retracement and resurvey of the North boundary of Township No.15 South, Range No.1 East of the Salt Lake Base and Meridi Utah,

executed by Howard W. Miller and Lyman E. Bolinger

under ~~his special~~ instructions dated July 19,1913 and Sept.15, 191 6, respective 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—276:

4—680

BOOK A-435

FIELD ASSISTANTS.

NAMES.	CAPACITY.
G.L.Shepherd	Chainman

4—2764

CADASTRAL ENGINEER.

CERTIFICATE OF UNITED STATES ~~SURVEYOR~~.

I, Howard W. Miller, Cadastral Engineer U. S. ~~Surveyor~~, hereby certify upon honor that, in pursuan of special instructions received from the U. S. Surveyor General for Utah bearing date of the 1st. day of October, 1918, I have well, faithfully, and tru in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instru tions, and the laws of the United States, surveyed all those parts or portions of resurvey of the Salt Lake Meridian through T.15 S. and the subdivision of T. 15 S.,R.1 E.

of the Salt Lake Base and Meridian, in the State of Utah, which are represented i the foregoing field notes as having been executed by me, and under my direction; and that all the corners o said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instruc tions, 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 o such survey.

Certified to at Salt Lake City, Ut. this 2nd. day of May 1919

Howard W. Miller
~~U. S. Surveyor~~

U. S. Cadastral Enginner.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah June 16, 1919

The foregoing field notes of the ~~survey of~~ resurvey of the Salt Lake Meridian, through Township No. 15 South, and the subdivision of Township No. 15 South, Range No. 1 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller

under his special instructions dated October 1, 1918, 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

Blank

Page

Blank

Page

Blank

Page

Blank

Page

BOOK A-435

B.

FIELD NOTES

OF THE SURVEY ~~OF THE~~

RETRACEMENT AND RESURVEY OF PART OF

THE EIGHTH STANDARD PARALLEL SOUTH THROUGH RANGE 11 WEST.

RETRACEMENT AND RESURVEY OF

PART OF THE SUBDIVISION OF T. 40 S. 2 R. 11 W.

SURVEY OF PART OF

THE EAST BOUNDARY OF T. 40 S., R. 11 W.

AND

SURVEY OF PART OF THE

SUBDIVISION OF T. 40 S., R. 11 W.

Of the SALT LAKE BASE AND *Meridian,*

In the State of UTAH

EXECUTED BY

JOHN W. DOUGALL

In the capacity of U. S. Surveyor, under instructions dated August 20, 191~~7~~, *issued by the United States Surveyor General to govern surveys included in Group No.* 40, *which were approved by the Commissioner of the General Land Office,* September 9, *191*5.

Assignment Instructions dated August 17, 1916.

Survey commenced October 13, 1916, *191*~~1~~

Survey completed November 13, 1916. ✓, *191*~~1~~

6—151

Examinations Classified

A Plat V.I.F. Notes E.B. H.F.B.

B Computations H.P.

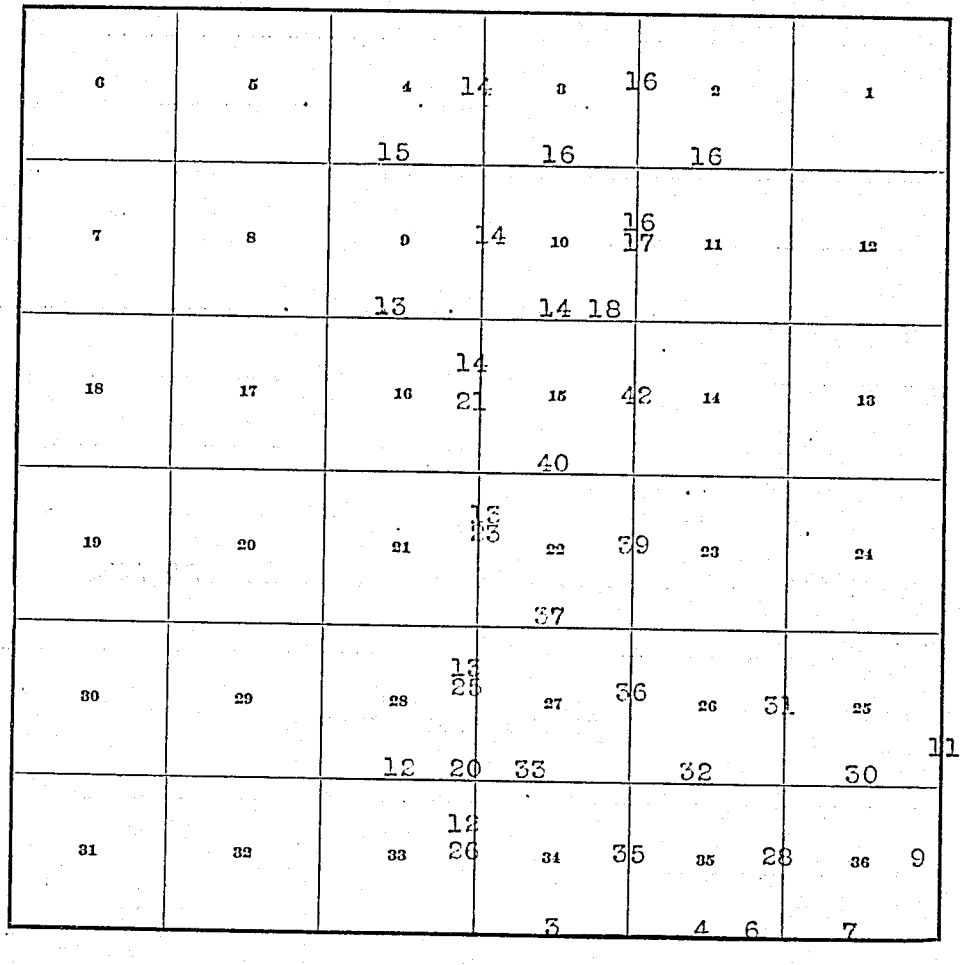
Comparing

C Plat E.B. Notes H.F.B.

BOOK A-435

INDEX DIAGRAM.

Township 40 South, *Range* 11 West



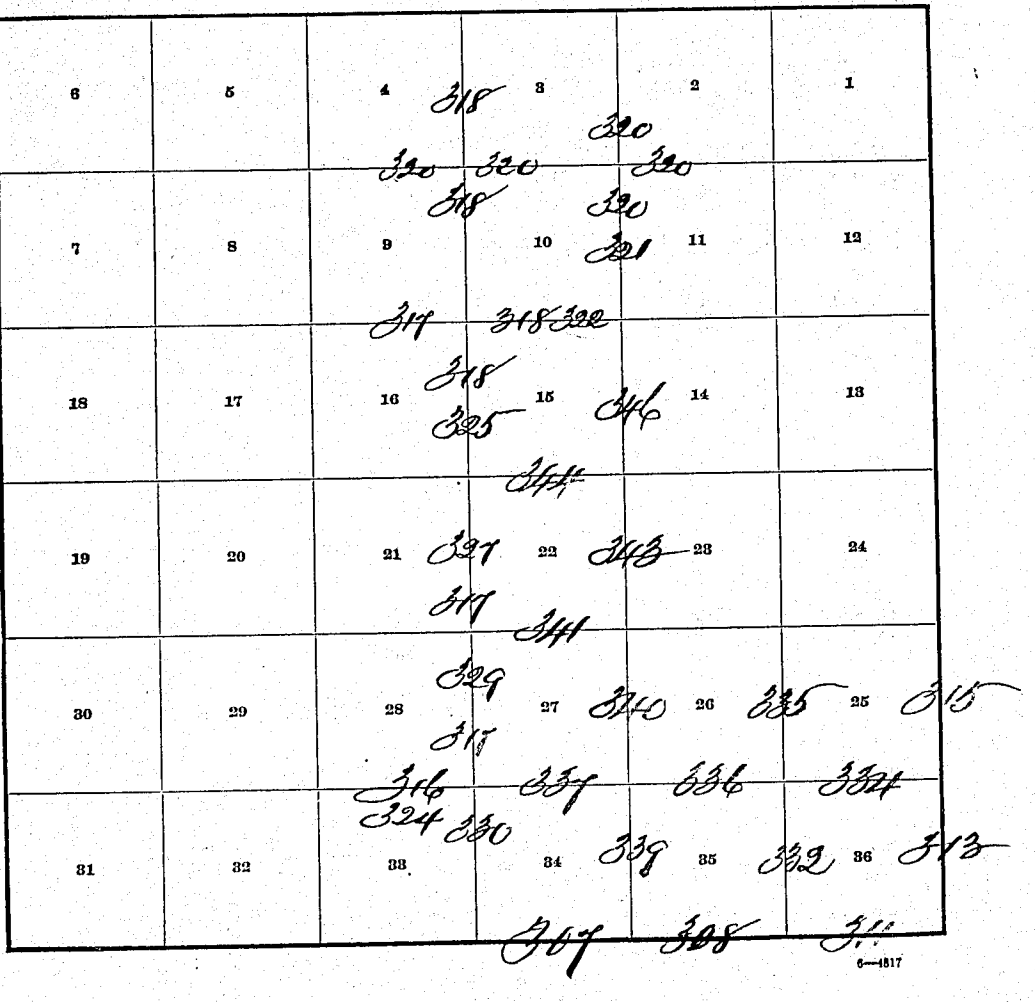
C—151

BOOK A-435

4—679 b

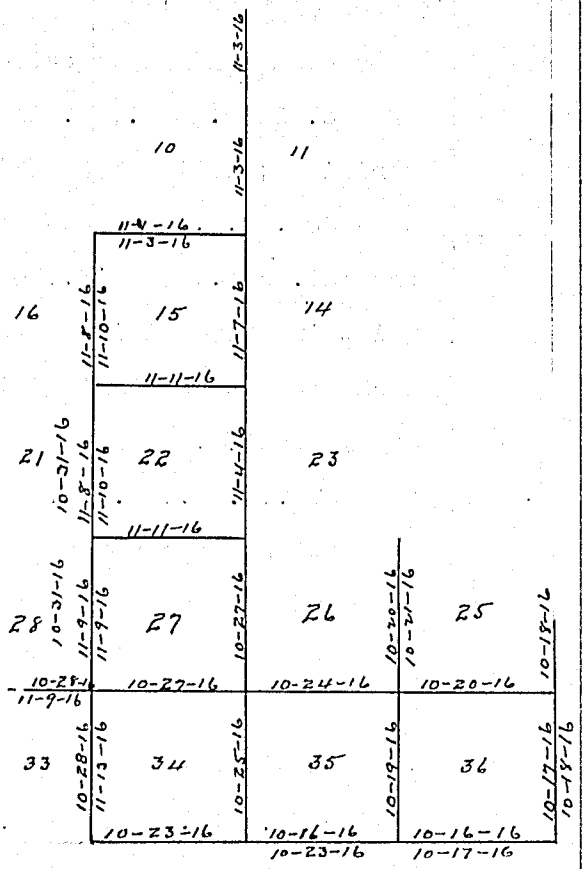
INDEX DIAGRAM.

Township 40 S, Range 11 W



6—1817

DATE DIAGRAM



Survey commenced October 15, 1916, and executed with a Young and Sons light mountain transit No.8390 equipped 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 supervisor of surveys. A five chain steel tape and a clinometer were used in measuring all distances, and the reduced horizontal distances only appear in these notes. The tape was tested by comparing it with a one chain standard steel tape.

Chains.

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

At my camp which is located near the standard ¼ sec.cor. of sec. 32 T.40 S., R. 11 W. , Salt Lake Base and Meridian ; latitude 37°17'N. longitude 113°03'30" W.

At 3h 00m. p.m., apparent time, I set off 37°17' N. on the lat. arc., 7°53'S., on the decl. arc; and mark a point in the meridian determined with the solar, by a mark on a stake firmly driven in the ground 5 chs. N. of my station.

At 6h 07m.,p. m., l.m.t., I observe Polaris at eastern elongation, in accordance with Manual of Instructions, and mark a point in the line thus determined, on a peg driven in the ground 5 chs. N. of my station.

October 13, 1916.

October 14,1916. At 8h 00m.a.m. apparent time, I lay off the azimuth of Polaris 1°25' to the west, and mark the meridian thus determined, by a pencil mark on the stake set October 13, 1916,on which the meridian falls 0.4 ins. east of the mark determined by the solar.

At 9h 00m. a.m., apparent time, I set off 37°17'N. on the lat. arc; 8°10'S. on the decl. arc; and mark a point in the meridian determined with the solar, by a mark on the stake already set 5 chs. N. of my station; this mark falls 0.4 ins. east of the meridian established by the Polaris observation.

The solar apparatus, by p.m. and a. m. observations, defines positions for meridians about 21" east and west of the meridian established by the Polaris observations; therefore, I conclude that the adjustments of the instrument are satisfactory.

Chains	
	Owing to a defective needle no observations for magnetic declination were made.
	Note: The instrument was kept in good adjustment and frequently tested with a meridian established by Polaris observations, during the execution of this survey.
	October 14, 1916.
	From the standard cor. of secs. 33 and 34, which is an iron post, 3 ins. in dia., 12 ins. above the ground, firmly set, marked and witnessed as described by the surveyor general.
	Thence
	East, retracing along the south Bdy. of sec. 34.
39.00	Fall 2 lks. N. of the standard ¼ sec. cor. which is an iron post, 1 in. in dia., 12 ins. above ground, firmly set, marked and witnessed as described by the surveyor general.
	The true course of this line therefore is S.89°58'E., and distance is 39.00 chs.
	Note: Later I find the true point for the ¼ cor. for sec. 34 falls 1.74 chs. N.88°46'E., of the standard ¼ sec. cor. which point comes on unsafe ground; cor. not set; therefore I mark W C on E. half of cap of standard ¼ cor. for witness cor. to St. ¼ cor. of sec. 34, also add W.C to marks on bearing trees.
	From the standard ¼ cor. on S.bdy. of sec.34.
	East, retracing along S. bdy. of sec. 34.
44.39	Fall 96 lks. S. of the witness cor. to standard cor. of secs. 34 and 35, which is a sandstone 20 x 14 x 12 ins. above ground, firmly set, marked SC on N. 4 grooves on W. and 2 grooves on E. faces. witnessed as described by the surveyor general.
	Note: This cor. is also reported as the witness cor. to

Chains.

the closing cor. of secs.2 and 3 of T. 41 S., R. 11 W. there are no marks to this, therefore I mark WCCC and 6 grooves on S. face,and raise a mound of stone 3 ft. base 2 ft. high S. of cor.

No trees within limits suitable for marking.

The true course of this line therefore is N.88°46'E., and distance is 44.40 chs.

From the witness cor. to the standard cor. of secs. 34 and 35,which is also the witness cor. to the CC of secs. 2 and 3, which is reported at 5.47 chs. E. of true point for cor.

East, retracing along S. bdy. of sec. 35.

34.53 A point 40.00 chs. E. of true point for standard cor. of secs. 34 and 35.

After careful search find no trace of standard ¼ sec. cor.

60.65 Fall 79 lks. N. of witness cor. to standard cor. of secs. 35 and 36, which is an iron post, 2 ins. in dia. 12 ins. above a stone mound, firmly set, marked on brass cap,

T 40 S
R 11 W
S 35 | S 36 W
C

1909

Stone mound 2 ft. base 1½ ft. high N. of cor.

The true course of this line, from the witness cor. to the standard cor. of secs. 34 and 35 to witness cor. to the standard cor. of secs. 35 and 36, therefore is S.89°15'E., and distance is 60.66 chs.

Thence

N.89°15'W., resurvey, along S. bdy. of secs 35.

Descend abruptly over broken stony mountainous land through oak, liveoak, serviceberry and manzanita undergrowth.

12.00 Enter scattering cedar and pinon timber bears NE. and SW.

23.30 A point 40.00 chs. longitudinally W. from the standard cor. of secs. 35 and 36.

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

Chains.	
	a stone mound on solid rock for St. ¼ cor. of sec. 35 cut X, with brass cap marked ¼ S 35 1916 from which A Pinon 14 ins. Diam., bears N.38°30'E.,1.00 ch. dist., marked ¼ S 35 B T. A pinon 12 ins. diam., bears N.31°W., 1.43 chs. dist., marked ¼ S 35 B T This cor. is 565 ft. below WC to standard cor. of secs. 35 and 36. Note: On account of standard ¼ sec. cor. on S. bdy. of sec. 35, would be an angle cor. only or a witness point therefore the cor. is not restored.
38.00	Bottom of "Trail Canyon" 270 ft. below ¼ sec. cor. drains N.20°W.,
44.70	Top of rocky spur,210 ft, above "Trail Canyon" projects N.60°E., Note: On account of a series of sandstone ledges it is impracticable to chain farther W. on this line, to pass ledges I proceed as follows. Measure a base 10.00 chs. N.0°45'E. where I erect a flag. I then proceed to a point on line on top of ledges from which the flag on N. end of base bears N.57°17'E. and the flag on line at foot of ledges bears S.89°15'E. the included angle therefore is 33°28'. I calculate the distance as follows Cot 33°28' X base or 1.51275 X 10.00 chs. = 15.13 chs. which added to 44.70 makes
59.83	Top of ledges, 750 ft. above "Trail Canyon" bears N.10°W. and S.10°E.
60.66	The witness cor. to standard cor. of secs. 34 and 35. I obliterate the marks on this cor. that pertain to secs. 34 and 35 and mark A P on top of stone leaving it standing for an angle point and witness cor. to closing cor. of secs. 2 and 3.

N.57°17'E
S89°15'E

Chains.

also destroy the marks on the bearing trees that pertain to secs. 34 and 35.

Thence

S.88°46'W. resurvey,

63.31 A point 80.00 chs. longitudinally W. of the standard cor. of secs. 35 and 36,

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a stone mound on solid rock for St. cor. secs. 34 and 35 with brass cap marked

S C
T 40 S | R 11 W
S 34 | S 35

1916

from which

A cedar 10 ins. diam., bears N.34°E., 66 lks. dist. marked T 40 S R 11 W S 35 B T

A pinon 10 ins. diam., bears N.28°45'W., 1.10 chs. dist., marked T 40 S R 11 W S 34 B T

Land mountainous.

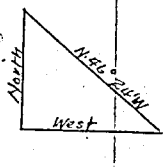
Nearly solid sandstone formation.

Timber cedar and pinon. Undergrowth oak, liveoak, serviceberry and manzanita.

Eighth Standard Parallel
South through part of Range 11 West.

From the witness cor. to the standard cor. of secs. 35 and 36, I destroy the marks that pertain to secs. 35 and 36 and mark AP for angle point on brass cap,

Note: In order to pass ledges I run west 10.00 chs. from which point I measure a base N. 10.00 chs. and erect a flag, I then proceed to a point on line on top of ledges E. of the witness cor. from which the flag on N. end of the base bears N.46°24'W., the included angle is therefore 43°36' I calculate the distance as follows cotan. 43°36' X base or 1.05010 X 10.00 chs. = 10.50 chs.



Chains.	
	which distance minus 10.00 chs. makes
0.50	Top of ledges 440 ft. high bears N.20°E., 10.00 chs. then N.45°W. and S.20°W.
	Thence across rolling mesa through scattering cedar and pinon timber and oak, liveoak, serviceberry and manzanita undergrowth.
6.70	Small ravine, 50 ft. deep, drains N. 1.66 ch. to main ravine then W.
16.70	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for standard cor. of secs. 35 and 36, with brass cap marked T 40 S R 11 W S C S 35 | S 36 1916 from which A cedar 12 ins. diam., bears N.12°E., 1.32 chs. dist., marked S C T 40 S R 11 W S 36 B T A cedar 16 ins. diam., bears N.63°45'W., 70 lks. dist., marked S C T 40 S R 11 W S 35 B T
	Land rolling mesa and ledges mountainous.
	Soil, sandy 5 to 16 ins. deep, moist, on solid sandstone base.
	Timber cedar and pinon. Undergrowth oak, liveoak, serviceberry and manzanita.
	This cor. is 100 ft. above top of ledges.
	East, along S. bdy. of sec. 36.
	Ascend, over sandy mesa through scattering cedar and pinon timber and oak, liveoak, serviceberry and manzanita undergrowth.
1.00	Head of ravine, 12 ft. below sec. cor. drains N.85°W. and leave scattering timber and undergrowth.
3.00	Leave mesa ascend over a series of smooth sandstone ledges on which is a very scattered growth of long leafed pine bears N.75°E. and S.75°W.

Eighth Standard Parallel

South through part of Range 11 West.

Chains.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a stone mound on solid rock for standard ¼ sec. cor., with brass cap marked

S C
¼ S 36

1916

from which

A pine 16 ins. diam., bears N.78°E., 75 lks. dist. marked S C ¼ S 36 B T

A pine 20 ins. diam., bears N.5°W., 97 lks. dist., marked S C ¼ S 36 B T

This ¼ sec. cor. is 615 ft. above sec. cor.

43.50 Spur, 85 ft. above ¼ sec. cor. projects N. 12 chs. then NW., also leave scattering long leafed pine timber bears N. and S.

48.00 Head of ravine, 125 ft. below spur, drains N.

69.00 Sandstone dome on ridge, 225 ft. above ravine, bears N.80°E., and S.80°W.

78.85 Enter scattering pine timber and manzanita undergrowth bears N. and S.

80.00 Set an iron post, 3 ft. long. 3 ins, in dia., 24 ins. in a stone mound on solid rock for standard cor. of T 40 S., Rs. 10 and 11 W., with brass cap marked

S C
T 40 S
R11 W | R 10 W
S36 | S 31

1916

from which

A pine 14 ins. diam., bears N.24°E.,27 lks. dist., marked S C T 40 S R 10 W S 31 B T

A pine 12 ins. diam., bears N.24°W., 21 lks. dist., marked S C T 40 S R 11 W S 36 B T

Land mountainous. nearly solid sandstone formation. Timber cedar, pinon, pine and long leafed pine. Undergrowth oak, liveoak, serviceberry and manzanita.

This cor. is 520 ft. below dome on ridge.

East Boundary of T. 40 S., R. 11 W.

Chains.

From the standard cor. of T.40 S., Rs. 10 and 11 W.

North, bet. secs. 31 and 36.

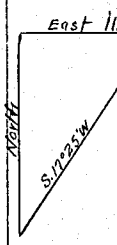
Ascend over rough mountainous land through scattering pine timber and manzanita undergrowth.

11.45 Top of ridge, 175 ft. above S C, bears E. and W.

12.00 Descend over nearly impassable smooth sandstone ledges bears E. and W. leave timber and undergrowth bears E.& W.

27.57 Top of ledges over which it is impossible to chain bears N.80°W., and S.80°E., 210 ft. below ridge. set a flag.

Note: To pass the ledges I proceed to a point on line N. of the ledges, from which I measure a base E. 11.99 chs. from E. end of the base the flag on the ledges bears S.17°25'W. I calculate the distance as follows: Cotan.17°25'X base or 3.18775 X 11.99 = 38.22 chs. which added to 27.57 chs. makes 65.79 chs. or 25.79 chs. N. of the true point for the ¼ sec. cor. I now run S. 25.79 chs. to true point for ¼ sec. cor. where at



40.00 Set an iron post, 3 ft, long, 1 in. in dia., 26 ins. in a stone mound on solid rock for ¼ sec. cor., with brass cap marked

$$\begin{array}{c} \frac{1}{4} \\ S\ 36 \mid S\ 31 \\ 1916 \end{array}$$

from which

A cedar 8 ins. diam., bears N.8°15'E., 2.54 chs. dist., marked ¼ S 31 B T.

A lone cottonwood 9 ins. diam., bears N.22°30'W., 1.53 chs. dist., marked ¼ S 36 B T

This ¼ sec. cor. is at base of ledges which are 350 ft. high.

41.00 Enter scattering cedar and pinon timber and oak and serviceberry undergrowth.

51.60 Bottom of canyon, 560 ft. below ¼ sec. cor., spring branch 8 lks. wide 6 ins. deep, flows N.40°W.

67.81 Base of impassable ledges 250 ft. high bears N.20°W., and S.20°E.

East Boundary of T. 40 S., R. 11 W.

Chains.

Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a stone mound on solid rock for witness cor. to cor. of secs. 25, 30, 31 and 36, with brass cap marked

W C
T 40 S
R 11 W | R 10 W
S 25 | S 30

S 36 | S 31

1916

from which

A cedar 10 ins. diam., bears S.50°E. 48 lks. dist. marked W C T 40 S R 10 W S 31 B T

A cedar 11 ins. diam., bears S.65°30'W., 1.00 ch. dist., marked W C T 40 S R 11 W S 36 B T

Directly over the cor. I mark on the face of the ledge a cross with 5 grooves over and 1 groove and W C under the cross

Raise a mound of stone 3 ft. base 2 ft. high W. of cor.

Note: to pass the ledges I offset as follows;

West, 4.13 chs.

North 12.19 chs. to a point at the base of ledges 4.13 chs. W. of

80.00 The point for the cor. of secs. 25, 30, 31 and 36. where I set a sandstone 18 x 14 x 6 ins. 14 ins. in a stone mound on solid rock for witness point on line bet. secs. 25 and 36, marked W P on W. face.

from which

A pinon 12 ins. diam., bears S.17°W., 1.04 chs. dist., marked W P T 40 S R 11 W S 36 B T

No other trees within limits suitable for marking

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

Land mountainous.

Nearly solid sandstone formation.

Timber cedar, pinon and pine. Undergrowth manzanita, oak and serviceberry.

This point is 510 ft. above canyon.

East Boundary of T.40 S., R. 11 W.

Chains.

From the W.P. on line bet. secs. 25 and 36, which is 4.15 chs. W. of the true point for the cor. of secs., 25, 30 31 and 36.

North, on offset line bet. secs. 25 and 30.

Over broken mountainous land through scattering cedar and pinon timber, oak and serviceberry undergrowth.

North 5.81 chs. thence
East 4.13 chs. to a point on line bet. secs. 25 and 30 at foot of ledges.

5.81 Set a sandstone 30 x 8 x 8 ins. 24 ins. in the ground for witness point bet. secs. 25 and 30, marked W.P on N. face

from which

A pinon 12 ins. diam., bears N.16°E., 1.28 chs. dist., marked W.P T 40 S R 10 W S 30 B T

A pinon 10 ins. diam., bears N.27°15'W., 1.18 chs. dist., marked W.P T 40 S R 11 W S 25 B T

23.50 North Creek Canyon, 860 ft. below W.P., creek 10 lks. wide 6 ins. deep, flows W.

33.70 Point of spur, 215 ft. above canyon, projects SW.

40.00 Set an iron post, 3ft. long, 1 in. in dia., 26 ins. in a stone mound, on solid rock, for ¼ sec. cor., with brass cap marked

S 25 | ¼ | S 30
1916

from which

A cedar 8 ins. in dia., bears N.24°E., 1.22 chs. dist. marked ¼ S 30 B T

A cedar 8 ins. diam., bears S.81°W., 63 lks. dist. marked ¼ S 25 B T

This ¼ sec. cor., is 260 ft. above canyon.

Land mountainous.

Nearly solid sandstone formation.

Timber cedar and pinon, undergrowth serviceberry and oak.

Note: On account of impassable ledges about 15.00 chs. N. of this ¼ sec. cor., I discontinue the survey of this bdy.

Retracement of Subdivision of T. 40 S., R. 11 W.

Chains.	
	From the cor. of secs. 28 and 33, on the E. bdy. of sec. 32, which is a sandstone 12x 14x 12 ins. above ground, firmly set, marked and witnessed as described by the surveyor general.
	East, retracing bet. secs. 28 and 33.
39.74	Fall 89 lks. N. of ¼ sec. cor., which is a lava stone 12 X 6 X 4 ins. above a stone mound, in which the cor. is loosely set, plainly marked ¼ on N. face, not witnessed, I mark trees as follows A cedar 6 ins. diam., bears N.61°30'W., 30 lks. dist., marked ¼ S 28 B T A cedar 6 ins. diam., bears S.67°E., 62 lks. diat., marked ¼ S 33 B T The true course of this line therefore is S.88°43'E., and distance is 39.75 chs.
	From the ¼ sec. cor. bet. secs. 28 and 33.
	East, retracing bet. secs. 28 and 33.
10.00	After careful search find no trace of witness cor. to cor. of secs. 27, 28, 33 and 34, which is reported set at this distance. Set temp transit point.
	Note: I retrace South in accordance with the old reports 40.00 chs. then East 40.00 chs. to position for ¼ sec. cor., bet. secs. 33 and 34; after careful search find no trace of ¼ sec. cor. Set temp. transit point.
	Thence South retracing bet. secs. 33 and 34, at 25.00 chs. after careful search find no trace of witness cor. to standard cor. of secs. 33 and 34, nor will the topography in any way fit with that reported.
	From the witness cor. to the standard cor. of secs. 32 and 33, which is a saddstone 10 x 6 x 24 ins. above ground, loosely set, plainly marked WCCC on SW. face 6 notches on S. 4 notches on E. and 2 notches on W. edges not witnessed.
	East, retracing in sec. 33, along the reported offset of the 8th. Standard Parallel South.
40.00	After careful search find no trace of witness cor. to

Chains.	
	the standard ¼ sec. cor.
80.00	After careful search find no trace of witness cor. to standard cor. of secs. 33 and 34.
	From temp. transit point left at the reported position for the witness cor. to the cor. of secs. 27,28,33 and 34.
	North retracing along offset line for the line bet. secs. 27 and 28.
40.00	After careful search find no trace of witness cor. to ¼ sec. cor. bet. secs. 27 and 28.
80.00	After careful search at 7.07 chs. E. of this point find no trace of the witness cor. to the cor. of secs. 21, 22, 27 and 28.
	Set temp. transit point.
	From temp. transit point left in the reported position for the witness cor. to secs. 21,22,27 and 28.
	North retracing along offset line for the line bet. secs. 21 and 22.
40.00	After careful search find no trace of witness cor. to ¼ sec. cor. bet. secs. 21 and 22.
68.54	Base of red sandstone ledges, smooth, not perpendicular, 325 ft. high bears N.15°W. about 35.00 chs. and S.15°E. about 80.00 chs.,
	Note: It is impossible to climb these ledges.
	The reported topography in no way fits the country I therefore conclude these corners were not as reported.
	From the cor. of secs. 8, 9, 16 and 17, which is a lava stone 7 x 10 x 7 ins. above ground, firmly set, plainly marked 4 notches on S. and E. edges, plain traces of four pits and earth mound W. of cor.
	N.89°45'E., retracing bet. secs. 9 and 16.
39.87	Reported distance for ¼ sec. cor., after careful search find no trace of cor.

Retracement of subdivision of T. 40 S., R. 11 W.

Chains.	
79.75	After careful search find no trace of cor. of secs. 9, 10 15 and 16. Set temp. transit point.

	From temp. transit point left for cor. of secs.9, 10, 15 and 16.
	East, retracing bet. secs. 10 and 15.
35.50	Base of impassable red sandstone ledges. After careful search find no trace of ¼ sec. cor.

	From temp. transit point left for cor. of secs. 9, 10, 15 and 16.
	South, retracing bet. secs. 15 and 16.
40.00	After careful search find no trace of ¼ sec. cor.
55.80	On account of sandstone ledges it is impossible to chain farther S. on this line , to pass ledges I offset as follows:
	West 10.00 chs. South 24.20 chs. East, 10.00 chs. to a point 80.00 chs. S., of temp. point for cor. of secs. 9, 10, 15 and 16.
80.00	After careful search find no trace of cor. of secs. 15, 16, 21 and 22.

	From the cor. of secs. 3, 4, 33 and 34. on N. bdy. of the Tp. which is a trachyte stone 16 x 10 x 6 ins. above a mound of stone, firmly set, plainly marked 3 notches on E and W. edges, stone mound W. of cor.
	S.0°05'W., retracing bet. secs. 3 and 4.
40.22	After careful search find no trace of ¼ sec. cor.
80.22	After careful search find no trace of cor. of secs. 3, 4, 9 and 10. Set temp. transit point.

	From temp,. transit point for cor. of secs. 3, 4, 9 and 10.
	South retracing bet. secs. 9 and 10.
40.00	After careful search find no trace of ¼ sec. cor.
80.00	Again make search for cor. of secs,.9, 10, 15 and 16.

Chains.

and find no trace of same.

The temp. transit point set for cor. of secs. 9, 10, 15 and 16, bears S.88°38'E., 2.10 chs. dist.,

I restore the cor. of secs. 9, 10, 15 and 16, as follows:

239.97 chs. record distance from cor. of secs. 3, 4, 33 and 34. on N. bdy. of the Tp. to cor. of secs. 8, 9, 16 and 17, is to 79.75 chs., record distance from cor. of secs. 8, 9,16 and 17 to cor. of secs. 9, 10, 15 and 16, as 2.10 chs. the closing error is to X the required distance the cor. is to be set from the temp. transit point set for the cor. of secs. 9, 10, 15 and 16.

$$\frac{239.97}{79.75} \times \frac{2.10}{X} \quad X = 0.70 \text{ chs.}$$

Therefore at a point 70 lks. N.88°38'W., or 70 lks. W. and 2 lks. N. of the temp. transit point for cor.of secs. 9, 10, 15 and 16, I

Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for restored cor. of secs. 9, 10, 15 and 16, with brass cap marked

T 40 S R 11 W
S 9 | S 10
S 16 | S 15

1916

Raise a mound of stone 3 ft. base 2 ft. high W. of cor. A lone cedar 10 ins. diam., bears N.17°40'E., 3.10 chs. dist., marked T 40 S R 11 W S 10 B T.

The true course of the line from the cor. of secs. 3, 4, 33 and 34, on N. bdy. of the Tp. to the restored cor. of secs. 9, 10, 15 and 16 therefore is S.0°27'E., and distance is 160.25 chs. and the true course of the line bet. secs. 9 and 16 is N.89°44'E., and distance is 79.05 chs.

From the cor. of secs. 4, 5, 8 and 9, which is an iron post 2 ins. in diam. 12 ins. above ground, firmly set, marked and witnessed as described by the surveyor general .

Chains	
	East, retracing bet. secs. 4 and 9.
40.00	After careful search find no trace of ¼ sec. cor.
80.00	After again making careful search find no trace of cor. of secs.3, 4, 9 and 10. Set temp. cor.

	From temp. cor. of secs., 3, 4, 9 and 10.
	East, retracing bet. secs. 3 and 10.
40.00	After careful search find no trace of ¼ sec. cor.
80.00	After careful search find no trace of cor. of secs. 2, 3, 10 and 11. Set temp. cor.

	From temp. cor. of secs, 2, 3, 10 and 11.
	South, retracing bet. secs. 10 and 11.
40.00	After careful search find no trace of ¼ sec. cor.
	--- ---
	From temp cor. of secs. 2, 3, 10 and 11.
	East, retracing bet. secs. 2 and 11.
40.00	After careful search find no trace of ¼ sec. cor.
50.00	Reported distance for witness cor. to cor. of secs., 1, 2, 11 and 12, after careful search find no trace of cor.

	From temp. cor. of secs. 2, 3, 10 and 11.
	North, retracing bet. secs. 2 and 3.
40.00	The ¼ sec. cor., which is a lava boulder in place 3 x 4 x 2 ft., above ground, plainly marked ¼ on W. face, not witnessed, bears S.72°05'W., 4.88 chs. dist.,
	I restore the cor. of secs. 2, 3, 10 and 11 as follows, 200.00 chs. record distance from cor. of secs., 4, 5, 8 and 9 to the ¼ cor. bet. secs. 2. and 3. is to 160.00 chs. record distance from cor. of secs. 4, 5, 8 and 9 to cor. of secs. 2, 3, 10 and 11, as 4.88 chs. the closing error is to X or required distance cor. of secs. 2, 3, 10 and 11 is to be set from temp. cor. of secs. 2, 3, 10 & 11.
	$\frac{200.00}{160.00} \times \frac{4.88}{X} = 3.90$ chs.
	Therefore at a point 3.90 chs. S.72°05'W., or 3.71 chs.

Chains.

W. and 1.20 chs. S. of the temp. cor. of secs. 2, 3, 10 and 11, I

Set an iron post, 3ft. long. 2 ins. in dia., 24 ins. in the ground for restored cor. of secs.2, 3, 10 and 11, with brass cap marked

T 40 S R 11 W
S 3 | S 2
S 10 | S 11
1916

from which

A pine 14 ins. diam., bears N.56°50'E., 1.01 chs. dist. marked T 40 S R 11 W S 2 B T

A pine 16 ins.diam., bears S.64°E., 2.15 chs. dist,, marked T 40 S R 11 W S 11 B T.

A pine 10 ins. diam., bears S.36°20'W.,3.10 chs. dist., marked T 40 S.R 11 W S 10 B T

A triple pine 30 ins. diam., bears N.23°24' W., 3.50 chs. dist., marked T 40 S R 11 W S 3 B T

The true cpurse of the line from the cor. of secs., 4, 5, 8 and 9, to the restored cor. of secs.,2, 3, 10 and 11 therefore is S.89°34'E., and distance is 156.29 chs. and the true course of the line from the ¼ sec. cor. bet. secs.2 and 3 to the restored cor. of secs. 2, 3, 10 and 11, therefore is S.1°21'E., and distance is 39.71 chs.

Resurvey of part of the Subdivision of T. 40 S., R.11 W.

From the restored cor. of secs. 2, 3, 10 and 11.

South resurveying bet secs. 10 and 11.

Ascend gently over rolling mountainous land through scattering pine timber, sandstone formation.

5.00 Low spur 20 ft. above sec. cor. projects E. descend.

20.00 Ravine, 50 ft. deep drains E.

27.00 Leave scattering pine timber and sand stone formation enter volcanic formation bears E. and W.

32.50 Top of mesa and enter scattering cedar and pinon timber.

Chains.	
	bears E. and W. Mesa is 150 ft. above ravine.
40.00	Reported distance for ¼ sec. cor.
	Set an iron post, 3 ft. long, 1 in. in dia., 6 ins. in the ground to solid rock and 20 ins. in a stone mound for restored ¼ sec. cor. bet. secs. 10 and 11, with brass cap marked
	S 10 ¼ S 11
	1916
	from which
	A cedar 8 ins. diam., bears S.85°E., 38 lks. dist., marked ¼ S 11 B T
	A cedar 8 ins. diam., bears N.32°30'W., 1.31 chs., dist., marked ¼ S 10 B T.
	Note: This is the end of the old reported surveyed line.
	From the ¼ sec. cor. bet. secs. 10 and 11.
	South on a true line bet. secs. 10 and 11.
	Across mesa through scattering cedar and pinon timber.
0.40	Leave scattering cedar and pinon timber bears E. and W.
0.50	Leave mesa descend abruptly over broken volcanic formation through manzanita undergrowth.
15.50	Ravine, 440 ft. below mesa, drains W. 5.00 chs. then S.
22.80	Enter W. edge of small mesa 125 ft. above ravine, bears N.45°E., and S.45°W.
36.00	Leave small mesa descend bears N.10°W., and S.10°E.
40.00	Set temp. cor. for secs. 10, and 11 only.
	Land rolling and broken mountains.
	Poor stony soil, with stones sandstone and volcanic formation.
	Timber cedar, pinon and pine . undergrowth manzanita.

	Survey and resurvey of part of the subdivision of T 40 S., R. 11 W.

	From the restored cor. of secs. 9, 10, 15 and 16.
	Last resurveying bet. secs. 10 and 15.

Chains.	
	Over rolling mountainous land through manzanita and oak brush.
2.00	Wash 40 lks. wide 5 ft. deep, drains S. 5.00 chs. then S. 45°E.
5.00	Enter N. end of Jacob Lee's field bears N. 1.00 ch. and SE.
11.20	Dim road to Jacob Lees house bears NW. and SE.
20.00	Leave field bears N. and S.
35.00	Base of almost impassable sandstone ledges bears N.10°W. and S.10°E. add enter scattering cedar timber bears N.& S.
40.00	Set an iron post, 3 ft. long. 1 in. in dia., 26 ins. in a stone mound on solid rock for restored ¼ cor. bet. s secs. 10 and 15 , with brass cap marked ¼ S 10 / S 15 1916 from which A cedar 10 ins. diam., bears S.34°E., 94 lks. dist., marked ¼ S 15 B T A cedar 16 ins. diam., bears N.89°W., 39 lks. dist., marked ¼ S 10 B T
	Note: This is the end of the old reported surveyed line.
	From the ¼ cor. bet. secs. 10 and 15.
	East on a true line bet. secs. 10 and 15.
	Ascend abruptly over sandstone ledges through scattering cedar timber and oak and manzanita undergrowth.
12.75	Ridge 350 ft. above foot of ledges bears N.10°W. and S. 10°E., also leave scattering cedar timber bears N. and S.
21.65	Foot of sloping sandstone ledges 240 ft. below ridge bears N. and S. enter scattering pine timber bears N.& S.
30.00	Ravine, 275 ft. below ridge drains S.10°E., leave scattering pine timber bears N. and S. and lava formation.
37.07	Intersect N. and S. line 2.19 chs.N. of the temp. cor. of secs. 10, and 11 only where I
	Set an iron post, 3 ft. long, 2 ins. in diam., 4 ins. in the ground to solid rock and 20 ins. in a stone mound

Chains.

for the cor. of secs. 10, and 11 only , , with brass cap marked

T 40 S, R 11 W
S 10 | S 11

1916

Raise a mound of stone 2½ ft. base 2 ft. high N. of cor.

Land rolling and broken mountains.

Soil stony and sandy with some volcanic ash and cinders.

Timber pine, and scrub cedar.

Undergrowth oak and manzanita.

Note: On account of the witness cor. to cor. of secs. 27, 28, 33 and 34, being missing. and from retracements I can see that a closing cor. will be set for cor. of secs. 27 and 34, I restore the cor. for secs. 28 and 33 only as follows.

From the ¼ sec. cor. bet. secs. 28 and 33 , heretofore described

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

Over rolling stony mountainous land through scattering cedar and pinon timber.

9.00 Top of lava ledge 20 ft. high bears N.10°E. and S.10°W. descend abruptly.

23.70 Left Fork of North Creek Canyon 335 ft. below ledge creek 20 lks. wide 1 ft. deep flows S.

28.50 Point of spur, 90 ft. above creek projects S.

40.00 Position for restored cor. of secs. 28 and 33 falls on unsafe ground on sloping bank of Right Fork of North Creek canyon. Cor. not set. I return to

39.50 On safe ground where I

Set an iron post, 3 ft. long, 2 ins. in dia., 4 ins. in the ground to solid rock and 20 ins. in a stone mound for witness cor. to cor. of secs. 28 and 33, with brass cap marked

Survey and Resurvey of part of the Subdivision of T. 40 S., R. 11 W.

Chains.

T 40 S
S 28 W. | ✓
S 33 C |
R 11 W

1916

from which

A cedar 10 ins. diam., bears S.22°W., 68 lks. dist.,
marked W C T 40 S R 11 W S 33 B T

A cedar 12 ins. diam., bears N. 39°W. 74 lks. dist.,
marked W C T 40 S R 11 W S 28 B T

Land mountainous.

Nearly solid volcanic formation.

Timber scattering cedar and pinon.

From the true point for the cor. of secs. 28 and 33,
North on a random line along the east bdy. of secs.
16, 21 and 28. setting temp: ¼ sec. and sec. cors.
at intervals of 40.00 chs. ; and , at 239.99 chs. inter-
sect the S. bdy. of sec. 9 at 1.81 chs. S.89°44'W., of
the restored cor. of secs., 9, 10, 15 and 16.

The course of the line from the true point for cor. of secs.
28 and 33 to the restored cor. of secs. 9, 10, 15 and 16
therefore is N.0°26'E., and distance is 240.00 chs.

Note : On account of the numerous offsets and triangula--
tions and some being off the true line I report same
on true line .

Thence

From the restored cor. of secs: 9, 10, 15 and 16.
S.0°26'W., on a true resurvey line along the E: bdy. of
sec. 16.

Ascend over rolling mountainous land through manzanita
and oak brush.

21.00 Low sand and sandstone spur, 75 ft. above sec. cor.
projects S.40°E.

21.50 Begin abrupt descent over numerous smooth sandstone
outcroppings.

27.20 Ravine, 65 ft. below spur, drains S.20°E., and enter

Resurvey of part of the subdivision of T. 40 S., R. 11 W.

Chains

scattering pine timber bears NW. and SE.

34.00 Foot of almost impassable smooth sandstone ledges bears NW. and SE.

40.00 Point for ¼ sec. cor. falls on sloping sandstone ledges where cor. cannot be set.

Note: I return to a safe place on the ledges at

38.92 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a stone mound on solid rock, for witness cor. to restored ¼ sec. cor., with brass cap marked

S 16 | S 15
W | C
1916

from which

A pine 8 ins. diam., bears S.2°E., 68 lks. dist., marked W C ¼ S 15 B T

A pine 9 ins. diam., bears S. 62°W., 37 lks. dist., marked W C ¼ S 16 B T

43.31 Jacob Lee's cabin bears N.62°45'E.

A spring of good water, in a deep canyon, bears N.81°E.

Note: On account of impassable ledges it is impossible to obtain further on this line to pass the ledges I offset as follows :

West, 7.47 chs. ; then, on the offset line S.0°26'W., 30.15 chs. then, East 7.47 chs. to point on true line bet. secs. 15 and 16, which added to 43.31 chs. makes

73.46 At which point at a later date closing cor. for secs. 15 and 22 is set, thence

S.0°26'W. on true resurvey line to

80.00 Set an iron post, 3 ft. long, 2 ins. in diam. 10 ins. in the ground to solid rock and 14 ins. in a stone mound for restored cor. of secs. 16 and 21, with brass cap marked

T 40 S
S 16
S 21
11 W
1916

from which

Chains.

A pine 6 ins. diam., bears S.87°W., 1.02 chs. dist., marked T 40 S R 11 W S 21 B T

A pine 24 ins. diam., bears N.50°W., 1.15 chs. dist., marked T 40 S R 11 W S 16 B T.

Land rolling and broken mountains.

Light sandy soil underlaid with sandstone.

Timber pine, Undergrowth oak and manzanita brush.

Note: This cor,. is set against the base of an impassable red sandstone dome.

S.0°26'W., on true resurvey line along E. bdy. of sec. 21.

Over rough broken mountainous land through pine timber oak and manzanita underbrush.

Note: On account of impassable sandstone dome over which I cannot chain the following offset is taken.

East, 2.85 chs.; then, on the offset line:
S.0°26'W., 6.85 chs. Jacob Lee's Cabin bears N.25°38'E.
A spring of good water, in a deep canyon, bears N.32°E.
then,
West, 2.85 chs. to a point on the true line bet., secs., 21 and 22, thence
S.0°26'W., on true resurvey line.

7.25 Leave pine enter scattering cedar and pinon timber and numerous sandstone ledges and domes. bears NW. and SE.

33.41½ The point midway bet. closing cors. of secs, 15 and 22., and 22 and 27

Set an iron post, 5 ft. long, 1 in. in dia. 26 ins. in a stone mound on solid rock, for ¼ cor. of sec. 22 only with brass cap marked

¼ S 22
1916

from which

A pinon 10 ins. diam., bears N.24°E., 37 lks. dist., marked ¼ S 22 B T

Resurvey of part of the Subdivision of T 40 S., R. 11 W.

Chains.

No other trees within limits suitable for marking.

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

40.00 Set an iron post, 3 ft. long, 1 in. in diam. 26 ins. in a stone mound on solid rock, for restored ¼ cor. of sec. 21 only, with brass cap marked

¼ S 21
1916

from which

A pinon 8 ins. diam., bears N.80°W., 23 lks. dist., marked ¼ S 21 B T

No other trees suitable for marking within limits.

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

59.83 Top of ledges over which it is impossible to chain.

Note: In order to pass ledges I proceed as follows:

Set a flag on line below ledges and erect a flag at point on top of ledges,

From the flag below the ledges I measure a base 8.64 chs. S.89°34'E.,

From the E. end of the base the flag on top of the ledges bears N.37°55'W.,

I calculate the distance across the ledges as follows:

Tang. 51°39' included angle X base 8.64 chs. or 1.26395 X 8.64 = 10.92 chs. which added to 59.83 makes

70.75 Foot of ledges 710 ft. below top and enter small mesa bears N. 30°W. and S.30°E.

73.37 At a later date closing cor. for secs. 22 and 27 is set at this point.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 8 ins. in the ground to solid rock and 16 ins. in a stone mound for restored cor. of secs. 21 and 28, with brass cap marked

T 40 S
S 21 / S 28
R 11 W

1916

from which

Chains.

A cedar 8 ins. diam., bears S.65°30'W., 19 lks. dist., marked T 40 S R 11 W S 28 B T

A cedar 10 ins. diam., bears N.54°W. 1.10 chs. dist., marked T 40 S R 11 W S 21 B T

Land mountainous.

N. 74.00 chs. almost solid sandstone formation S. 6.00chs. sandy loam 6 to 10 ins. deep on volcanic formation or base.

Timber pine, cedar and pinon. Undergrowth oak and manzanita brush.

From the restored cor. of secs., 21 and 28.

S.0°26'W., on a true resurvey line along E. bdy. of sec. 28.

Descend gently over mesa through cedar and pinon timber manzanita and oak brush.

2.00 Top of black volcanic ledge 40 ft. high and leave timber and brush descend abruptly bears N70°E., and S.70°W.

12.00 Leave volcanic enter sandstone formation bears E. and W.

15.80 Left Fork of North Creek Canyon 330 ft. below mesa creek 20 lks. wide 6 ins. deep flows S.60°W.

16.50 Enter scattering cedar and pinon timber and scattered oak brush bears E. and W.

33.38 The point midway bet. closing cors. of secs. 22 and 27, and 27 and 34.

Set an iron post, 3 ft. long , 1 in., in dia., 14 ins. in the ground to solid rock and 12 ins. in a stone mound, for ¼ cor., of sec. 27 only, with brass cap marked

¼ S 27

1916

from which

A pinon 10 ins. diam., bears N. 2°E., 68 lks. dist., marked ¼ S 27 B T.

No other trees within limits suitable for marking .

Chains	
	Raise a mound of stone 2 ft. base 1½ft. high E. of cor.
39.75	Spur, 540 ft. above "North Creek Canyon" projects W.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for restored ¼ cor. of sec. 28 only, with brass cap marked ¼ S 28 1916 from which A pinon 8 ins. diam., bears S.30°W. 12 lks. dist., marked ¼ S 28 B T
	No other trees suitable for marking within limits.
	Raise a mound of stone 2 ft. base 1½ ft. high W. of cor.
	Extreme W. end of sandstone ledges is 1.00 ch.E. of this ¼ sec. cor.
	Descend abruptly.
53.25	Foot of abrupt descent thence gentle descent bears E. and N.80°W.
67.00	Sandstone ledges 75 ft. high bears N.70°W., and S.80°E.
73.40	At a later date closing cor. for secs. 27 and 34 is set at this point.
80.00	The true point for restored cor. of secs. 28 and 33.
	This point is 675 ft. below ¼ sec.cor.
	Land mountainous.
	Soil light poor sandy loam 4 to 16 ins. deep, underlaid with sandstone and lava.
	Timber cedar and pinon. Undergrowth oak brush.

	From the true point for the cor. of secs. 28 and 33.
	South on a resurvey line along the E bdy of sec. 33.
	Descend over stony mountainous land through scattering cedar and pinon timber and oak brush.
4.20	Right fork of "North Creek Canyon" stream 6 lks. wide 6 ins. deep. flows S.80°W. 50 ft. below cor. point.
33.40	True point for ¼ cor. of sec. 34 falls on sandstone outcropping where cor. cannot be set. I proceed to
34.11	On safe ground where I set an iron post, 3 ft. long, 1 in.

Chains	
	in dia., 6 ins. in the ground to solid rock and 20 ins. in a stone mound for witness cor. to the ¼ cor. of sec. 34., with brass cap marked W C ¼ S 34 1916 from which A cedar 6 ins. diam., bears S.59°E., 36.1lks. dist. marked W C ¼ S 34 B T No other trees within limits suitable for marking. Raise a mound of stone 2.ft. base 1½ ft. high E. of cor. This W C. is 440 ft. above "North Creek"
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 14 ins. in the ground to solid rock and 12 ins. in a stone mound for ¼ cor. of sec. 33 only with brass cap marked ¼ S 33 1916 from which A pinon 8 ins. diam., bears N.10°W., 61 lks. dist., marked ¼ S 33 B T. No other trees within limits suitable for marking. Raise a mound of stone 2 ft. base 1½ ft. high W. of cor.
40.25	Spur, 485 ft. above North Creek , projects W.
41.50	Gulch, 85 ft. below spur, drains W.
50.00	Spur, 75 ft. above gulch, projects N.80°W.
54.00	Gulch, 50 ft. below spur, drains N.75°W.
59.20	Spur, 65 ft. above gulch, projects N.60°W.
61.30	Gulch, 70 ft. below spur, drains N.80°W.
73.28	Intersect the Eighth Standard Parallel South 8.66 chs. S.89°58'E. of the standard cor. of secs. 33 and 34, heretofore described. where I Set an iron post, 3 ft. long, 2 ins. in dia., 12 ins. in the ground to solid rock and 12 ins. in a stone mound for closing cor. of secs. 33 and 34, with brass cap marked T 40 S R 11 W C C S 33 S 34 1916

Chains.

from which

A cedar 10 ins. diam., bears N.34½°E.66 lks. dist., marked C C T 40 S R 11 W S 34 B T

A pinon 10 ins. diam., bears N.28½°W.1.10 chs. dist., marked C C T 40 S R 11 W S 33 B T

I destroy marks on standard cor. of secs. 33 and 34 and the bearing trees and leave them standing as witness points.

Land mountainous.

Poor sandy soil on sandstone base.

Timber cedar and pinon.

Undergrowth oak brush.

Subdivision of T. 40 S., R. 11 W.

From the standard cor. of secs., 35 and 36 heretofore described.

N.0°01'W., bet. secs. 35 and 36.

Descend, over sandy mesa through scattering cedar and pinon timber, oak, liveoak, serviceberry and manzanita undergrowth.

1.00 Ravine, 10 ft. below sec. cor. drains N.85°W.

3.00 Leave scattering timber bears N.85°W. and S.85°E.

19.00 Base of a series of sandstone pinnacles and ledges over which it is impossible to chain.

Set a sandstone 14 x 8 x 5 ins. in a stone mound on solid rock for witness point, marked WP on W. face; raise a mound of stone 2 ft. base 1½ ft. high W. of stone.

Note: To pass the ledges I offset as follows;

West 8.20 chs. then on the offset line
N.0°01'W., 40.00 chs. (counted from St. sec. cor.) the true point for ¼ sec. cor. cor. falls in ledges where cor. cannot be set.
N.0°01'W., 43.53 chs. (counted from standard sec. cor.) Top of ledges 240 ft. high bears N.60°W. and S.60°E.
N.0°01'W., 49.21 chs. (counted from standard sec. cor.) then
East, 8.20 chs. to a point on line bet. secs. 35 and 36; thence, =S.0°01'E., 6.99 chs. to [illegible]

48.22 Base of ledges , on line.

Subdivision of T. 40 S., R. 11 W.

Chains.

Set an iron post, 3 ft. long, 1 in. in dia. 26 ins. in a stone mound on solid rock for W.C. to ¼ sec. cor. with brass cap marked

$$\begin{array}{c} \frac{1}{4} \\ \text{S 35} \mid \text{S 36} \\ \text{W} \mid \text{C} \\ 1916 \end{array}$$

from which

A lone pine 12 ins. diam., bears N. 16½°W. 48 lks. dist., marked W C ¼ S 35 B T

An oak 4 ins. diam., bears N.74°E., 29 lks. dist., marked W C ¼ S 36 B T

56.40 Ravine, 660 ft. below W C to ¼ sec. cor., drains N.10°E.

68.00 Point of spur, 150 ft. above ravine, projects N.10°E.

75.00 Ravine, 420 ft. below point of spur, drains N.30°E.

and enter scattering pinon and maple timber bears N.10°E and S. 10°W.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 10 ins. in the ground to solid rock and 14 ins. in a stone mound for cor. of secs. 25,26,35 and 36, with brass cap marked.

$$\begin{array}{c} \text{T 40 S} \quad \text{R 11 W} \\ \text{S 26} \mid \text{S 25} \\ \text{S 35} \mid \text{S 36} \\ 1916 \end{array}$$

from which

An oak 5 ins. diam., bears N.3½°E., 32 lks. dist., marked T 40 S R 11 W S 25 B T

A pinon 9 ins. diam., bears S.7½°E., 51 lks. dist., marked T 40 S R 11 W S 36 B T

A maple 6 ins. diam., bears N.29°W., 15 lks. dist., marked T 40 S R 11 W S 26 B T

No trees suitable for marking within limits in sec.35.

Raise a mound of stone 3 ft. base 2 ft. high W. of cor.

S. 19.00 chs. mesa with sandy soil 3 to 20 ins. deep, on sandstone formatipn. N. 61 chs. rough broken mountains of nearly solid sandstone formation.

Timber scattering cedar and pinon. Undergrowth oak, liveoak maple, serviceberry and manzanita.

Chains.

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

40.00 Set temp. ¼ sec. cor.,

77.77 Intersect the N.F. heretofore described set 4.13 chs. W. of the true point for the cor. of secs. 25, 30, 31 and 36.

Thence

West on a true line (counting the distance from the true point for cor. of secs. 25, 30, 31, and 36,) bet. secs. 25 and 36.

Descend abruptly over stony broken mountainous land through scattering cedar and pinon timber and oak, and liveoak underbrush.

4. 13 N.F.

21.00 Branch of "North Creek Canyon"760 ft. below N.F. , creek 10 lks. wide 6 ins. deep, flows N.40°E.

23.00 Enter manzanita undergrowth bears N. and S.

33.00 Spur, 400 ft. above canyon, projects N.20°E.

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

$$\frac{S \quad 25}{S \ 36 \\ 1916}$$

from which

A cedar 5 ins. diam., bears N.20°E., 30 lks. dist., marked ¼ S 25 B T

A cedar 14 ins. diam., bears S.70°E., 30 lks. dist., marked ¼ S 36 B T.

This ¼ sec. cor. is 170 ft. below spur,.

41.00 Ravine, 40 ft. below ¼ sec. cor., drains N.10°E.

49.00 Spur,410 ft. above ravine, projects N.10°E.

52.00 Head of ravine,75 ft. below spur, drains N.10°E.

59.10 Spur, 100 ft. above head of ravine, projects N.10°E.

72.00 Red sandstone ledges 40 ft. high bears N.20°E. and S.20°E.

76.00 Ravine, 650 ft. below spur, drains N.10°E. and enter scattering scrub maple timber or brush, and serviceberry undergrowth.

80.00 The cor. of secs. 25, 30, 35 and 36.

Subdivision of T. 40 S., R. 11 W.

Chains.	
	Land , rough broken mountains.
	Soil poor sandy loam, underlaid with sandstone.
	Timber cedar and pinon , undergrowth oak, liveoak, serviceberry manzanita and maple.

	Note: The line bet. secs. 25 and 36 is now used as a Sectional Correction Line.

	From the cor. of secs. 25, 26, 35 and 36.
	N.0°01'W., bet. secs. 25 and 26.
	Ascend over rough broken mountainous land through scattering cedar and pinon timber, oak, maple, serviceberry and manzanita undergrowth.
8.00	Point of spur, 60 ft. above sec. cor., projects N.40°E.
15.40	North Creek Canyon , 210 ft. below point of spur, creek 20 lks. wide 5 ins. deep, flows W.
17.80	Begin abrupt ascent on N. side of canyon bears E. and W.
27.00	Top of sandstone ledges 100 ft. high bears N. 80°W. and S.80°E.
33.50	Spur, 630 ft. above canyon, projects S.40°E.
39.00	Head of ravine, 50 ft. below spur, drains S.40°E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., with brass cap marked ¼ S 26 | S 25 1916 from which A pinon 6 ins. diam., bears N. 81°E., 38 lks. dist., marked ½ S 25 B T A pinon 12 ins. diam., bears N.27°W., 1.17 chs. dist., marked ½ S 26 B T.
43.00	Spur, 75 ft. above ¼ sec. cor. projects S.40°E.
48.00	Ravine, 50 ft. below spur, drains, S.40°E.
	thence ascend over a series of small spurs and ravines.
80.00	Set an iron post, 3 ft. long. 2 ins. in dia., 10 ins. in the ground to solid rock and 14 ins. in a stone mound

Subdivision of T. 40 S., R. 11 W.

Chains.

for cor. of secs. 23, 24, 25 and 26, with brass cap marked.

T 40 S R 11 W
S 23 | S 24
S 26 | S 25
1916

from which

A pinon 10 ins. diam., bears N.30°E., 84 lks. dist., marked T 40 S R 11 W S 24 B T

A cedar 12 ins. diam., bears S.23°E., 1.22 chs. dist., marked T 40 S R 11 W S 25 B T

A cedar 11 ins. diam., bears S.8°W., 1.70 chs. dist., marked T 40 S R 11 W S 26 B T

No trees suitable for marking within limits in sec. 23.

Raise a mound of stone 3 ft. base 2 ft. high W. of cor.

This cor. is 300 ft. above ¼ sec. cor.

Note: On account of impassable ledges I abandon this line.

Land rough mountains.

Soil poor sandy loam with stones and boulders underlaid with sandstone.

Timber, cedar and pinon.

Undergrowth maple, oak, manzanita and serviceberry.

From the cor. of secs. 25, 26, 35, and 36.

West. on a sectional correction line.

Bet. secs. 26 and 35.

Ascend, abruptly over broken mountainous land through cedar and pinon timber, oak, serviceberry, maple and manzanita undergrowth.

17.50 Spur, 270 ft. above sec. cor., projects N.

20.00 Head of ravine, 50 ft. below spur, drains N.

34.40 Spur, 125 ft. above head of ravine, projects N.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 4 ins. in the ground to solid rock and 22 ins. in a stone mound for ¼ sec. cor., with brass cap marked

¼ S 26
S 35
1916

Chains.

from which

A pinon 10 ins. diam., bears N.30°E., 48 lks., dist., marked ¼ S 26 B T

A pinon 10 ins. diam., bears S.18°W., 15 lks. dist. marked ¼ S 35 B T

This ¼ sec. cor.. is 200 ft. below spur,

70.00 Enter the S. side of "North Creek Canyon" 300 ft. below ¼ sec. cor. Canyon drains W.

80.00 Set an iron post, 3 ft. long, 2 ins. dia., 4 ins. in the ground to solid rock and 20 ins. in a stone mound for cor. of secs., 26, 27, 34 and 35. with brass cap marked

T 40 S R 11 W
S 27 | S 26
S 34 | S 35
1916

from which

A cedar 5 ins. diam., bears N.54°E., 18 lks. dist. marked T 40 S R 11 W S 26 B T

A cedar 6 ins. diam., bears S.20½°E., 1.18 chs. dist., marked T 40 S R 11 W S 35 B T

An oak 6 ins. diam., bears S.79½°W., 40 lks. dist. marked T 40 S R 11 W S 34 B T

A lone cottonwood 10 ins. diam., bears N.56½°W., 86 lks. dist. marked T 40 S R 11 W S 27 B T

Land mountainous.

Poor sandy soil 3 to 13 ins. deep, underlaid with sandstone.

Timber cedar and pinon. Undergrowth oak, manzanita maple, and serviceberry.

West.

On a Sectional Correction Line bet. secs. 27 and 34.

Along the S. side of " North Creek Canyon" through scattering pinon and cedar timber, oak, serviceberry and manzanita undergrowth.

1.30 Wash, 50 lks. wide 12 ft. deep, spring branch 2 lks. wide

Chains.	
	1 in. deep flows N.10°W. drainage from "Trail Hollow"
16.80	Spur,150 ft. above canyon, projects N.
25.00	Narrows of "North Creek Canyon" 150 ft. below spur, creek 20 lks. wide 10 ins. deep, flows S.80°W.
30.00	Spur, 75 ft. above canyon, projects S.
40.00	Set an irom post, 3 ft. long, 1 in. in dia., 12 ins. in the ground to solid rock and 14 ins. in a stone mound for ¼ sec. cor., with brass cap marked ¼ S 27 / S 34 1916 from which A cedar 14 ins. diam. bears S.87°W., 98 lks. dist., marked ¼ S 34 B T A pinon 12 ins. diam., bears N.87½°W.,99 lks. dist., marked ¼ S 27 B T
45.70	Bottom of "North Creek Canyon, 75 ft. below ¼ sec. cor. stream 10 lks. wide 8 ins. deep, flows N.45.W 12.00chs. then SW.
53.70	Recross "North Creek " flows S.80°W.,
55.00	Leave bottom of canyon ascend over huge boulders bears NE. and SW.
72.10	Intersect E. bdy of sec. 28, 6.60 chs. N.0°26'E., of cor. of secs. 28 and 33,.
	Set an irom post, 3 ft. long, 2 ins. in dia., 4 ins. in the ground to solid rock and 20 ins. in a stone mound for closing cor. of secs., 27 and 34, with brass cap marked T 40 S R 11 W S 28 | S 27 / S 34 | CC 1916 from which A cedar 9 ins. diam., bears N.68°E., 39 lks. dist., marked C C T 40 S R 11 W S 27 B T A cedar 5 ins. diam., bears S.84½°E., 45 lks. dist., marked C C T 40 S R 11 W S 34 B T

Chains.

Land mountainous.

Soil sandy and stony on sandstone base.

Timber, cedar and pinon.

Undergrowth oak, serviceberry and manzanita.

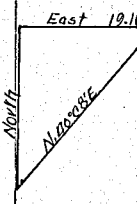
From the cor. of secs., 26, 27, 34 and 35.

South, on a random line bet. secs., 34 and 35.

40.00 Set temp. ¼ sec. cor.

46.30 To the base of a series of sandstone ledges and boulders over which it is impossible to chain.

Note to pass the ledges I proceed as follows:



Measure a base, east 19.16 chs. where I erect a flag I then proceed to a point on top of ledges on line from which the flag on the east end of the base bears N.40° 08'E.,; therefore the distance is cotan. 40°08' X base or 1.18614 X 19.16 chs. = 22.73 chs. which added to 46.30 chs. makes

69.03 Top of sandstone ledges bears N.40°W. and S.40°E.

79.11 Intersect the eighth standard parallel S. 9 lks. N.88° 46'E., of the S.C. of secs. 34 and 35., heretofore described.

Thence

N.0°04'E., on a true line bet. secs. 34 and 35.

Over rough broken stony mountainous land through cedar and pinon timber, oak, and manzanita underbrush.

2.30 Ravine, 75 ft. below cor. drains N.80°E.

6.00 Point of spur, 65ft. above ravine, projects E.

10.10 Top of sandstone ledges bears N. 40°W., and S.40°E.

39.11 Set an iron post, 3 ft. long, 1 in. in dia., 6 ins. in the ground to solid rock and 20 ins. in a stone mound, for ¼ sec. cor., with brass cap marked

$\frac{1}{4}$
S 34 | S 35
1916

from which

A cedar 5 ins. in dia., bears N. 36°E.,35 lks. dist marked ¼ S 35 B T

Subdivision of T. 40 S., R. 11 W.

Chains.	
	A cedar 7 ins. diam., bears N. 7°W., 66 lks. dist., marked ¼ S 34 B T.
	This ¼ sec. cor., is 600 ft. below ledges.
47.00	Enter bottom of "Trail Canyon" 125 ft. below ¼ sec. cor. spring branch 2 lks., wide 1 in deep: flows N. thence along canyon to
76.00	Leave wash in canyon at junction with "North Creek Canyon" which drains N.10°W.,
79.11	The cor. of secs., 26, 27, 34 and 35.
	Land, mountainous.
	Poor sandy stony soil on sandstone base.
	Timber cedar and pinon, oak and manzanita undergrowth.

	From the cor. of secs. 26,27, 34 and 35.
	N.0°01'W., bet. secs. 26 and 27.
	Descend gently across the bottom of "North Creek Canyon" through scattering cedar and pinon timber and sage and oak brush.
5.00	South bank of North Creek 10 ft. high bears E. and W.
5.50	North Creek 10 lks. wide 4 ins. deep flows W.
6.00	North bank of North Creek 8 ft. high bears E. and W.
9.00	Leave bottom of canyon ascend bears N.80°E. and S.80°W.
15.00	Point of spur, 190 ft. above canyon projects S.40°E.
20.40	Ravine, 100 ft. below spur drains S.20°E.
40.00	Set aniron post, 3 ft. long. 1 in. in dia., 24 ins. in the ground, for ¼ sec. cor. with brass cap marked ¼ S 27 | S 26 1916 from which
	A cedar 12 ins. diam., bears N.39°E., 68 lks. dist., marked ¼ S 26 B T
	A cedar 12 ins. diam., bears N.58°W., 38 lks. dist., marked ¼ S 27 B T
	This ¼ sec. cor. is 200 ft. above ravine.
54.00	Top of sandstone ledges 150 ft. high not perpendicular

Chains.	
	bears N.80°W., and S.80°E., this point is 480 ft. above ¼ sec. cor. leave sage brush bears E. and W.
80.00	Set an iron post, 3ft. long. 2 ins.in dia., 10 ins. in the ground to solid rock and 16 ins. in a stone mound for the cor. of secs. 22, 23, 26 and 27, with brass cap marked

T 40 S R 11 W
S 22 | S 23
S 27 | S 26
1916

from which

A cedar 7 ins. diam., bears N.88°E., 48 lks. dist., marked T 40 S R 11 W S 23 B T

A cedar 6 ins. diam bears S.59°E., 34 lks. dist., marked T 40 S R 11 W S 26 B T

A cedar 8 ins. diam., bears S.22°W., 63 lks. dist., marked T 40 S R 11 W S 27 B T

A cedar 6 ins. diam., bears N.85°30'W., 55 lks. dist., marked T 40 S R 11 W S 22 B T

This cor. is 500 ft. above ledges and is 1550 ft. above "North Creek Canyon"

Land rough mountains.

Soil poor sandy loam with stones and boulders underlaid with sandstone.

Timber cedar and pinon.

Undergrowth sage and oak brush.

From the cor. of secs. 22, 23, 26 and 27.

West on a true line bet. secs. 22 and 27.

Ascend over rough broken mountainous land through cedar and pinon timber and oak underbrush.

8.00	Point of nearly perpendicular sandstone ledges 50 ft. high projects S.80°W. also top of ridge 200 ft. above sec. cor., bears N.80°E. and S.80°W., thence descend abruptly along N. slope of ridge.
35.00	Point of sandstone ledges 75 ft. high projects N. from main ledges.

Chains.	
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 12 ins. in the ground to solid rock and 14 ins. in a stone mound for ¼ sec. cor., with brass cap marked ¼ S 22 / S 27 1916 from which A pinon 12 ins. diam., bears S.37°E., 32 lks. dist., marked ¼ S 27 B T A pinon 11 ins. diam., bears N.12°W., 23 lks. dist., marked ¼ S 22 B T This cor. is 1025 ft. below ridge.
53.50	Bottom of "Left Fork of North Creek Canyon" 220 ft. below ¼ sec. cor. creek 12 lks. wide 6 ins. deep flows S.60°W.
56.00	Leave sandstone enter volcanic formation bears N.60°E., and S.60°W.
58.00	Foot of a series of nearly perpendicular lava ledges bears N.20°E., and S.60°W.
59.90	Top of ledges 440 ft. above canyon and enter small mesa bears N.20°E. and S.60°W.
71.61	Intersect N. bdy. of sec. 21 , 3.63 chs. N.0°26'E., of cor. of secs. 21 and 28. Set an iron post, 3 ft. long, 2 ins. in dia., 16 ins. in the ground to solid rock and 8 ins. in a stone mound for closing cor. of secs. 22 and 27, with brass cap marked T 40 S R 11 W S 21 | S 22 / S 27 CC 1916 from which A cedar 7 ins. diam, bears N.60°E., 5 lks. dist., marked CC T 40 S R 11 W S 22 B T A cedar 7 ins. diam.,bears S.70°E., 10 lks. dist., marked C C T 40 S R 11 W S 27 B T Land mountainous. Soil sandy and stony on lava and sandstone base.

Chains.

Timber Cedar and Pinon.

Undergrowth oak brush.

From Cor. of secs., 22, 23, 26 and 27.

Note: On account of ledges it is impossible to run W. on true line bet. secs. 22 and 23. In order to pass the ledges I offset 8.80 chs. W. thence

N.0°01'W., on offset line bet. secs. 22 and 23.

Descend abruptly over broken stony mountainous land through cedar and pinon timber, and oak brush.

40.00 I now run East 8.80 chs. to true point on line bet. secs. for ¼ sec. cor. where I

Set an iron post, 3 f t. long. 1 in. in dia., 24 ins. in the ground for ¼ sec. cor. with brass cap marked

S 22 | S 23
1916

from which

A pinon 11 ins. diam., bears S.77°E., 43 lks. dist., marked ½ S 23 B T

A cedar 6 ins. diam., bears S.25°W., 64 lks. dist., marked ½ S 22 B T.

This cor. is 575 ft. below point of ledges.

Thence N.0°01'W. on true line bet. secs. 22 and 23.

54.60 Bottom of "Left Fork of North Creek Canyon" 390 ft. below ¼ sec. cor. creek 15 lks. wide 6 ins. deep flows S.60°W.

55.00 Leave sandstone enter volcanic formation also leave timber bears E. and W. ascend abruptly.

74.00 Foot of red sandstone ledges leave volcanic formation bears N.80°W. and S.80°E.

75.85 Top of ledges 690 ft. above canyon bears N.80°W. 5.00 chs. then S.60°W. and S.80°E. also enter scattering cedar and pinon timber bears E. and W.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia. 4 ins. in the ground to solid rock and 20 ins. in a stone mound for cor. of secs. 14, 15, 22 and 23., with brass cap marked

Chains.	
	T 40 S R 11 W S 15 | S 14 S 22 | S. 23 1916
	from which
	A cedar 11 ins. diam., bears N.27°E. 18 lks. dist., marked T 40 S R 11 W S 14 B T
	A pinon 11 ins. diam., bears S.46°30'E., 62 lks. dist., marked T 40 S R 11 W S 23 B T
	A cedar 8 ins. diam., bears S.37°W.,11 lks. dist. marked T 40 S R 11 W S 22 B T
	A cedar 6 ins. diam., bears N.64°30'W., 98 lks. dist., marked T 40 S R 11 W S 15 B T
	This cor. is 740 ft. above canyon.
	Land mountainous.
	Soil sandy and stony on sandstone and lava base.
	Timber cedar and pinon.
	Undergrowth oak.

	From cor. of secs. 14, 15, 22 and 23.
	Test on a true line bet. secs. 15 and 22.
	Descend over stony mountainous land through cedar and pinon timber and oak brush.
1.00	Enter manzanita underbrush bears NE. and SW.
2.00	Enter small mesa and volcanic formation bears N.10°E. and S.10°W.
12.00	Descend abruptly leave mesa bears N.30°E. and S.30°W.
17.50	Ravine 300 ft. below mesa drains S.30°W.
22.00	Enter mesa 150 ft. above ravine bears N.30°E. and S.30°W.
26.00	The SE. cor. of Jacob Lees clearing bears N.3.00 chs. dist.,
31.10	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ cor. of sec. 15 only, with brass cap marked
	¼ S 15 1916
	from which

Chains.	
	A cedar 10 ins. diam., bears N.86°E., 5.38 chs. distant marked ¼ S 15 B T
35.85	The SW. cor. of Jacob Lee's clearing bears N. 5.00 chs. dist.
39.60	Leave mesa descend abruptly over lava ledge 50 ft. high bears N.and S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 8 ins. in the ground to solid rock and 18 ins, in a stone mound for ¼ cor. of sec. 22 only , with brass cap marked ¼ S 22 1916 from which A cedar 7 ins. diam., bears S.28°10'E.2.90 chs. dist. marked ¼ S 22 B T
51.00	Bottom of canyon560 ft. below mesa spring branch 8 lks. wide 4 ins. deep, flows S. also leave volcanic formation enter sandstone formation and ascend abruptly over a series of smooth ledges. enter scattering pine timber.
71.10	Intersect E. bdy. of sec. 16, 8.54 chs. N.0°26'E., of cor. of secs. 16 and 21. Set an iron post, 3 ft. long. 2 ins. in dia., 24 ins. in a stone mound on solid rock for closing cor. of secs. 15 and 22, with brass cap marked T 40 S R 11 W S 16 | S 15 / S 22 CC 1916 from which A pine 6 ins. diam., bears N.75°E., 29 lks. dist. marked C C T 40 S R 11 W S 15 B T A pine9 ins. diam., bears S.42°30'E., 91 lks. dist., marked C C T 40 S R 11 W S 22 B T E. and W. portions of this line mountainous with a mesa in central portion. Soil on mesa is good sandy loam, 5 to 20 ins. deep. fine texture, moist underlaid with sandstone and lava. mountains are nearly solid stone. Timber cedar pinon and pine. Undergrowth oak and manzanita.

Chains	
	From the cor. of secs. 14, 15, 22 and 23.
	N.0°01'W. on a true line bet. secs. 14 and 15.
	Ascend gently over mountainous land through cedar and pinon timber and oak brush.
3.00	Enter volcanic formation and manzanita undergrowth bears N.10°E. and S.10°W.
15.60	Descend abruptly bears N.60°E. and S.60°W.
19.50	Ravine,115 ft. below sec. cor. drains S.60°W.
31.00	Enter a series of sandstone ledges bears E. and W.
33.47	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a stone mound on solidrock for ¼ cor. of sec. 15 only with brass cap marked ¼ S 15 1916 from which A cedar 8 ins. diam., bears S.64°W. 80 lks. dist. marked S 15 B T
35.00	Leave cedar and pinon timber andmanzanita undergrowth enter scattering pine timber bears E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ cor. of sec. 14 only, with brass cap marked ¼ S 14 1916 from which A pine 24 ins. diam., bears N.5°E., 53 lks. dist. marked ¼ S 14 B T This cor. is 285 ft. above foot of ledges.
46,90	Spur, 130 ft. above ¼ sec. cor. projects S.50°E.
66.00	Ravine,75 ft. below spur drains E.2.00 chs. then SE.
73.47	Intersect S. bdy. of sec. 10, 6.79 chs. W. of the cor. of secs. 10 and 11. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 14 and 15, with brass cap marked

Chains.

T. 40 S R 11 W
S 10

S 15 | S 14

C C
1916

from which

A pine 12 ins. diam., bears S.81°30'E., 1.00 ch. dist.
marked C C T 40 S R 11 W S 14 B T

A pine 30 ins. diam., bears S.3°30'W., 4.70 chs. dist.
marked C C T 40 S R 11 W S 15 B T

Land mountainous.

Soil sandy and stony on lava and sandstone base.

Timber cedar, pinon nnd pine.

Undergrowth oak and manzanita.

Boundaries of Fractional T. 40 S., R. 11 W.

Latitudes, Departures, and closing errors.

Line designated	True bearing	Dist chs.	Latitudes N. chs.	Latitudes S. chs.	Departures. E chs.	Departures. W chs.
8th.Standard Parallel South, through part of T.40 S., R.11 W.,	West	96.70	.....	.....	.....	96.70
	N.89°15'W	60.66	0.79	.....	.....	60.65
	S.88°46'W.	44.40	.....	0.96	.....	44.39
	N.89°58'W	30.34	0.02	.....	.....	30.34
W.bdy. sec.33, E.bdy. secs.16, 21 and 28.	North	73.28	73.28	.....	.....	.....
	N.0°26'E.	240.00	239.99	.....	1.81	.....
N.bdy.sec.15.	East	70.28	.....	.....	70.28	.....
E.bdy.secs.15,22, and 27	S.0°01'E.	233.47	.....	233.47	0.07	.....
N.bdy. secs. 35 and 36	East	160.00	.....	.....	160.00	.....
E. bdy. sec.36.	South.	80.00	.....	80.00	.....	.....
Convergency.			-----	-----	0.09	-----
Totals			314.08	314.43	232.25	232.08
				314.08	232.08	
Error in lat. and dep.				0.35	0.17	

General Description.

This fractional township is all mountainous. Composed principally of sandstone ledges and cliffs with some small mesas and plateaus or benches having a sandy soil capable of producing medium crops without irrigation. And some of the slopes are strewn with huge

sandstone boulders.

The slopes have a poor growth of grass and undergrowth which furnishes some summer pasture for cattle.

A scattered growth ofcedar, pinon and pine timber grows on the greater part of this fractional township.

There is plenty of water for stock watering purposes.

There were no surface indications of mineral found.

Jacob Lee is the only settler in this fractional township, he is dry farming about 50 acres in an irregular piece or pieces in section 15 and this season 1916 had a good crop of the following wheat, corn, oats, potatoes and beans.

John W. Dougall
U.S. Surveyor

WATER LOCATIONS.

IN

T. 40 S., R. 11 W.,

UTAH.

Sec. 15 W. ½
Sec. 22 central and NE part.
Sec.25 South ½
Sec. 26, South ½
Sec. 27, South ties of 40 tracts and NW ¼
Sec. 34, North tiers of 40 acre tracts.
Sec. 35, NW. ¼
Sec. 36, NE. ¼

Volume
#
R0435

Blank

Page

BOOK A-435

~~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.	
Elliot Bird	October13 1916	Nov.13,1916	Chainman.
Lloyd H. Terry	October 13,1916	Nov. 13,1916	Chainman.
Lacell Bird	October 13, 1916	Nov.13,1916	Flagman.
Blueford T. Beames	October 20,1916	Nov. 6, 1916	Axman.

The above is a list of the assistants employed and who assisted in making the foregoing survey of fractional T. 40 S., R. 11 W. Group No. 40, Utah.

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

John W. Dougall.

U. S. Surveyor.

CERTIFICATE

FINAL ~~OATH~~ OF UNITED STATES SURVEYOR.

I, John W. Dougall, U. S. Surveyor, do ~~solemnly swear~~ certify on honor that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the twentieth day of August, 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~~ retraced and resurveyed all those parts or portions of the 8th. Standard Parallel South through R. 11 West. Retracement and resurvey of part of the subdivision of T. 40 S., R. 11 W. Survey of part of the East boundary of T. 40 S., R. 11 W. and survey of part of the subdivisi of T. 40 S., R. 11 W. of the Salt Lake Base and 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 certify on honor ~~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.

and date diagram on page 1 ondates shown on said diagram

Dated April 17, 1917

John W. Dougall
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, May 22, 1918.

The foregoing field notes of the ~~survey of~~ retracement and resurvey of part of the Eighth Standard Parallel South, through Range No. 11 West; retracement and resurvey of part of the subdivision, survey of part of the east boundary and survey of part of the subdivisional lines of Township No. 40 South, Range No. 11 West of the Salt Lake Base and Meridian, Utah,

executed by John W. Dougall

under ~~his~~ special instructions dated August 20, 1915, 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

Blank

Page

Blank

Page

BOOK A-435 J.

U. S. Surveyor General's Office
APR 11 1918
SALT LAKE CITY, UTAH.

FIELD NOTES

OF THE SURVEY OF THE

SOUTH BOUNDARY, and SUBDIVISION

of

T. 43 S., R. 2 E.

Of the Salt Lake Base and *Meridian,*

In the State of Utah

EXECUTED BY

Andrew Nelson, U.S. Transitman

Elliot Bird, U.S. Transitman

~~*In the capacity of U.S. Surveyors*~~, *under instructions dated* Feb. 1, *1916, issued by the United States Surveyor General to govern surveys included in Group No.* 50, *which were approved by the Commissioner of the General Land Office,* March 25, *1916,* ~~*pursuant to authority contained in the Act of Congress dated*~~ ....., *191*....

Supplemental assignment instructions dated July 25, & Sept. 5, 1917.

Survey commenced October 4, *1917.*

Survey completed October 29, *1917.*

6—151

Examinations Classified

A Plat F.E.J. Notes M.F.B.

B Computations V.L.F.

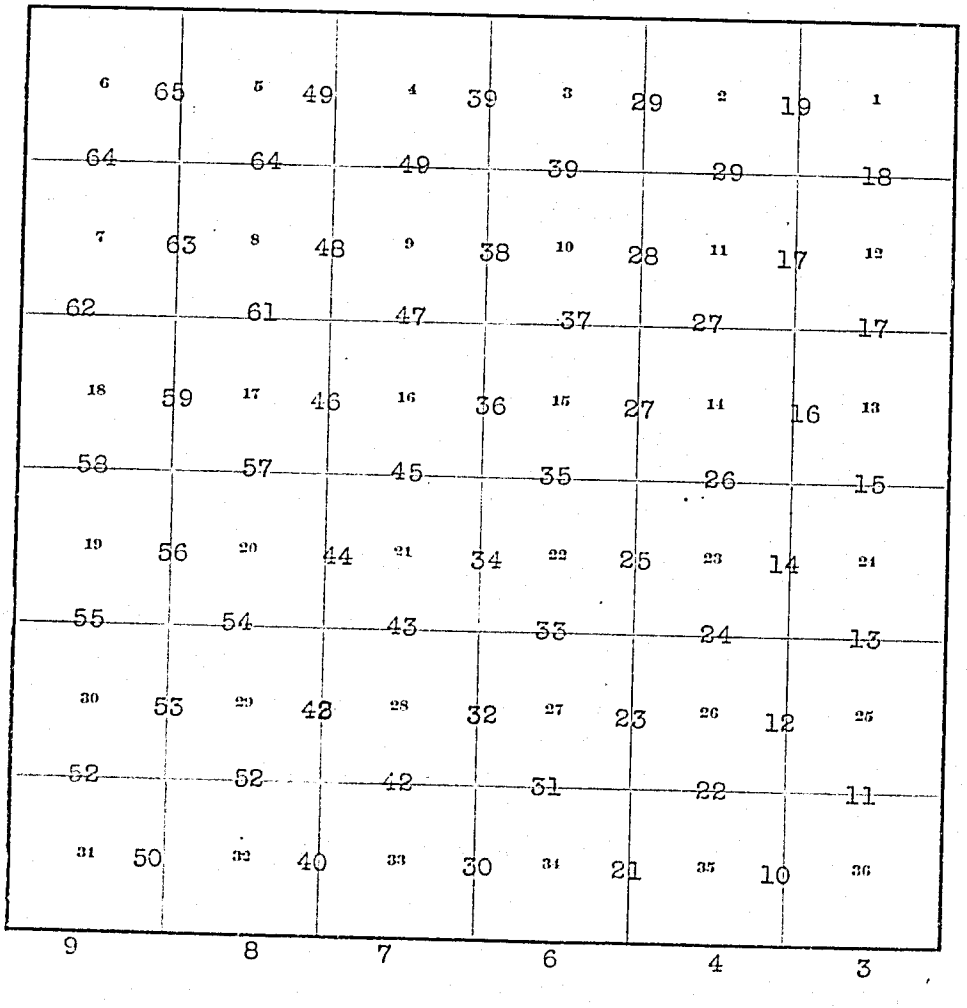
Comparing

C Plat V.L.F. Notes M.F.B.

BOOK A-435

INDEX DIAGRAM.

Township 43 South, *Range* 2 East



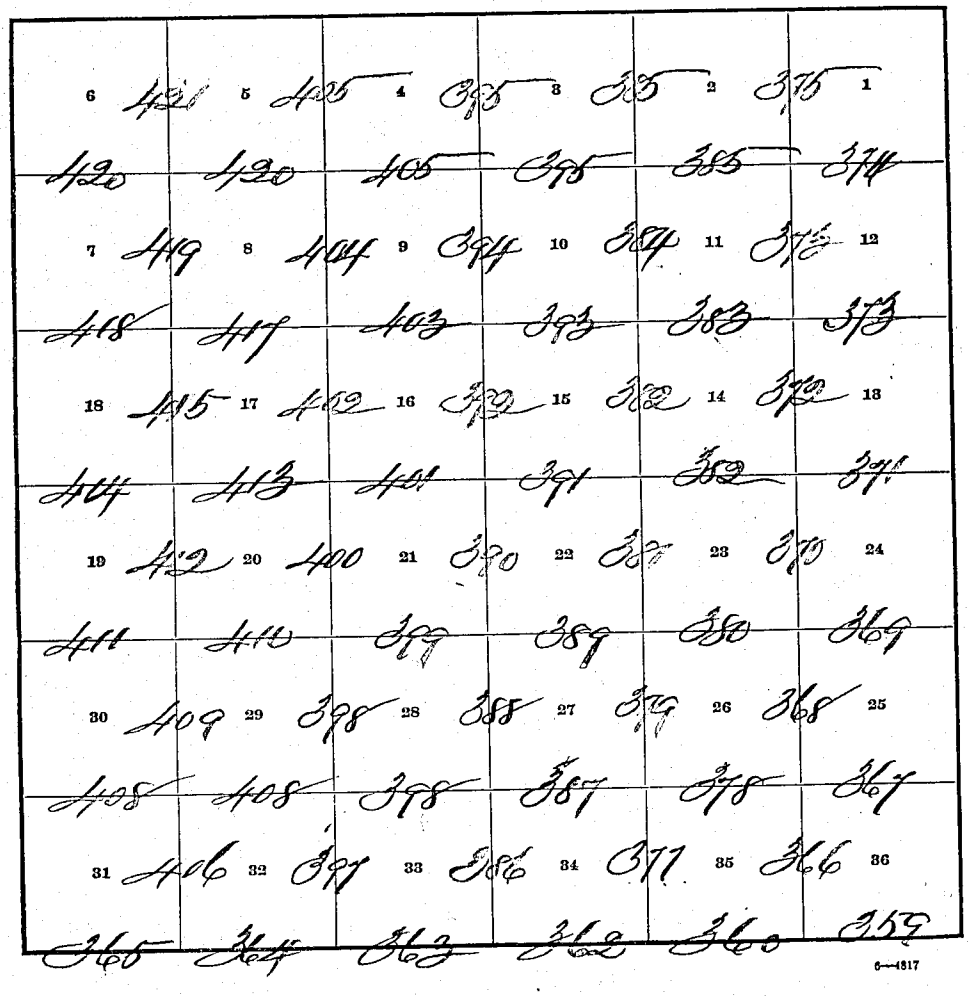
6—151

BOOK A-435

4—679 b

INDEX DIAGRAM.

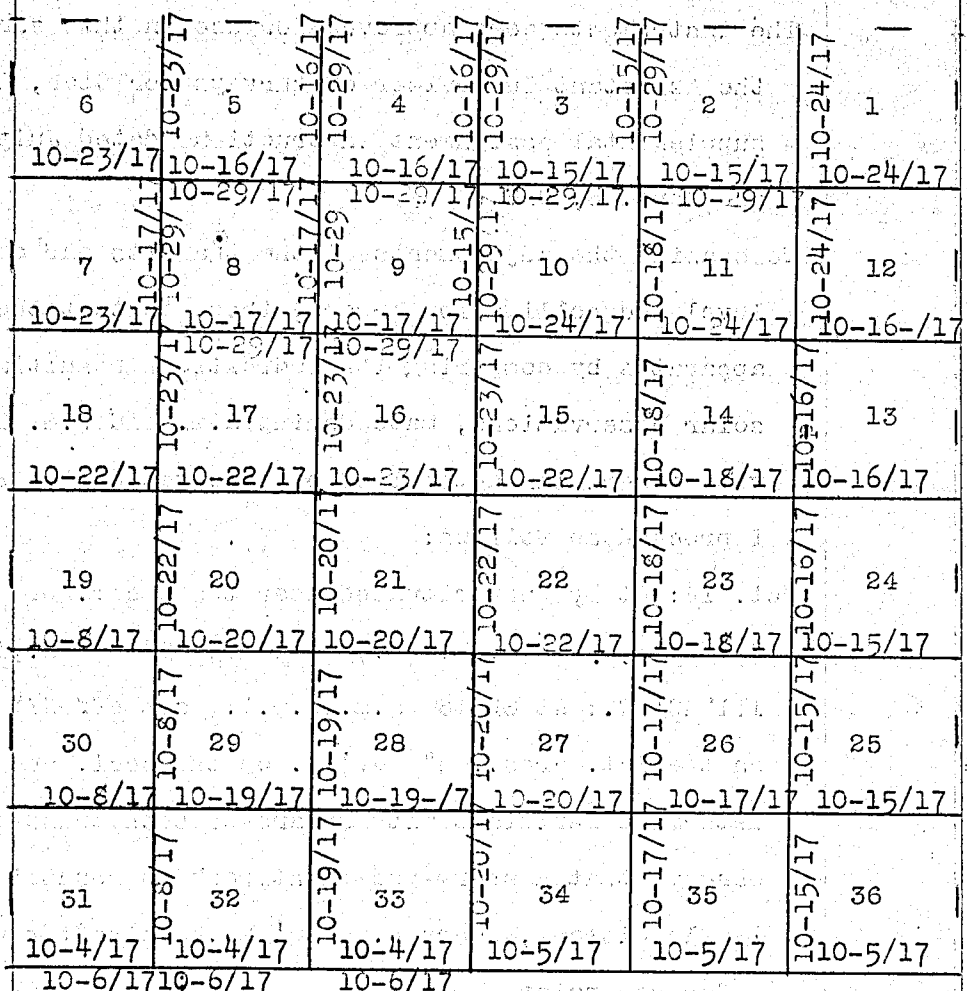
Township 43 S, Range 2 E



6—4817

South Boundary of T.43 S., R. 2 E

Date Diagram of T. 43 S.,R. 2 E.



Lines dated and colored with black ink, were surveyed by Andrew Nelson, U.S. Transitman

Lines dated and colored with red ink, were surveyed by Elliot Bird, U.S. Transitman

---

Survey commenced October 4, 1917 and executed with Young & Sons light mountain transits Nos. 8589 (used by Andrew Nelson) and 8487 (used by Elliot Bird), equipped with Smith's solar attachment. The horizontal limbs are provided with two double verniers placed

Chains

opposite to each other, reading to single minutes of arc, which is also the least count of the verniers of the latitue and declination arcs.

The instruments were approved for use in this survey by the Assistant Supervisor of surveys for Utah, in supplemental assignment instructions dated July 25, and Sept. 5,1918.

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

Oct. 14: At my camp situated near the 1/16 cor. of secs. 2 and 11, T.43 S.,R.2 E.; latitude 37°06½' N.,longitude 111°42' W.; At 8h 16m a.m.,l.m.t., set off 37° 06½' on the lat. arcs., 8° 04½' S. on the decl. arcs; and determine meridians with solars on both transits, and observe that a sharp prominent rock on mountain about 1 mile distant, bears N. 5°20' E.,hereinafter used as reference point.

At 11h 46m a.m.,l.m.t., with transits in the meridian, set off 8° 09' S. on decl. arcs.,and observe the sun on the meridian; resulting lat. is 37°06½'.

At 2h 46m p.m., we set off 8° 11½' S on the decl. arcs. and determine meridians with the solars, and observe that the reference point bears N. 5°19' E. by transit No. 8589, and N. 5° 20½' E., by transit No. 8487.

At 5h 59.1m a.m.,l.m.t., by my watch, which carries correct l.m.t., I observe Polaris at eastern elongation, with transit No. 8589, in accordance with Manual of Instructions, and find that the angle bet. star and reference point is 3° 55'; azimuth at star is 1° 25'; therefore the bearing of reference point is N.5°20' E.

South Boundary of T.43 S., R.2 E.

Chains

The instruments by a.m. and p.m. observations defines positions for meridians, which do not deviate more than 1' of arc from the true meridian as defined by Polaris observation; therefore I conclude that the instruments are in satisfactory adjustment.

The magnetic bearing of the true mer. at 9h a.m. is 15°25'W; the angle thus determined gives the mag. decl. 15°25'E.

The instruments were kept in good adjustments, being tested on the above meridian frequently throughout the survey of tp.

Steel tapes, 5 and 8 chains long were used in all measrue-ments, together with clinometers for determining slope angles, and the reduced horizontal distances only appear in the field notes. The tapes were tested, comparison being made with a steel standard tape, 1 chain long, kept and used for that purpose.

Survey of South Boundary of T.43S.,R.2E

From the cor. of Ts. 43 & 44 S., Rs. 1 & 2 E., recently set by me; and described in survey of T.43S.,R.1E.

Thence,

East, on random line, along S. bdy. of T.43S.,R.2E., setting temp. ¼ sec. and sec. cors. at intervals of 40.00 chs.; and,at 481.92 chs. intersect the random E. bdy. of tp., which is projected South from the cor, of Ts. 42 & 43 S.,Rs. 2 & 3 E. The cor. of Ts. 43 & 44 S., Rs. 2 & 3 E. is later established at this point, described in survey of T.43 S.,R.3 E. Gr. 51.

Thence,

West, on true S. bdy. of Tp., bet. secs. 1 and 36.

Over gently rolling, open sandy land, slight exposure to NE., through short undergrowth.

5.50 Sand ravine, 15 ft. deep, course NE.

Chains	
40.00	35 ft. above tp. cor. Set an iron post, 3 ft.long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S36 / S1 1917 dig pits 18x18x12 ins., E. and W. of post, 3 ft. dist.
53.60	Sandy ravine, 15 ft. deep, course N. 2 chs. to junction with larger ravine, course N.80°E.
58.50	Ravine, 15 ft. deep, course N.80°E., thence along N. edge of same.
60.00	Same at bend, from S.80°W to S.80°E.
69.20	Same, course S.80°E.
71.00	Same, course N.80°E.
80.00	On N. edge of ravine, 60 ft. above ¼ cor. Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 1,2,35 and 36, with brass cap marked T43S | R2E S35 | S36 S2 | S1 T44S 1917 dig pits 18x18x12 ins., in each sec., 5½ ft. dist. Land, gently rolling, exposure and drainage to NE. Soil, loose, fine, dry sand, sandy and gravelly loam. Undergrowth, short white sage, greasewood, oose, yellow-top and grass. No timber. Fair grazing land.

	West, bet. secs. 2 and 35. Gradually asc. over rolling, open land, towards break of mountain; sandy land.
18.00	Low sand ridge, brs. N.80°E. and S,80°W.
26.00	Base of mountain break, enter scattering cedar and pinon timber, and rocky land, brs. N. and S. Asc. broken sandstone ledges and bedrock, 90 ft. to

South Boundary of T.43 S., R. 2 E.

Chains	
30.24	On top small rock spur, projects N.30°E.; the true point for ¼ cor. will fall on steep E. face of ledgy break, impracticable to set; therefore at this point
	Set an iron post, 3 ft. long, 1 in. dia., 6 ins. in ground to bedrock, and in mound of stone, 4 ft. base, for the witness ¼ sec. cor., with brass cap marked
	WC ¼ S35 / S2 1917 from which
	A pinon, 7 ins.diam., bears S.55°W., 27 lks.dist., marked WC ¼ S2 BT
	No trees within limits in sec 35, and no rock available for accessory mound.
	Asc. precipitous E. face of break over high sandstone ledges.
40.00	True point for ½ cor. on steep ledgy E. face, impossible to perpetuate cor. No cor. set here.
51.32	Top of main break and ledges, 580 ft. above ½ cor. and 900 ft. above tp. cor., brs. N. and S.; continue gradual ascent over rocky broken mountainous land.
58.85	Rocky draw, 35 ft. deep, course N.70°E.
	Asc. abruptly E. face over ledges, 200 ft. to
67.40	Top of abrupt ascent and broken ledge, brs. NE. and SW.
	Gradually asc. 75 ft. to
80.00	On rocky NE. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in mound of stone, on bedrock, 5 ft. base, for cor. of secs. 34,35,2 and 3, with brass cap marked
	T43S R2E / S34 | S35 / S3 | S2 / T44S 1917 from which
	A pinon, 16 ins.diam., bears N.19½°E., 195 lks.dist., marked T43S R2E S35 BT
	A pinon, 8 ins.diam., bears S.62½°E., 59 lks.dist., marked T44S R2E S2 BT
	A pinon, 10 ins.diam., bears S.87°W., 23 lks. dist., marked T44S R2E S3 BT
	A pinon, 7 ins.diam., bears N.37½°W., 228 lks.dist., marked T43S R2E S34 BT

Chains	
	E. 26 chs. rolling sandy bench land; remainder of mile, exceptionally rough mountainous land, on E. break; drainage on mile to E.
	Soil, loose sand on rolling land, and sandstone ledges and bedrock on the rest.
	Undergrowth, scattering sage, greasewood, moose and grass.
	Timber, scattering cedar and pinon on W. 54 chs.

	West, bet. secs. 3 and 34.
	Over broken general E. face of mountain, through scattering cedar and pinon timber.
	Asc. along rocky N. and NE. slopes, 140 ft. to
11.00	Rim and top of mountain, 1325 ft. above tp. cor., brs. N. and SE., thence over smooth top, slight ascent.
31.00	Descend NW. slope.
34.80	Draw, near head, 40 ft. deep, course N.; thence over N. slope.
40.00	On gentle N. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ cor., with brass cap marked ¼ S34 / S3 1917 from which A cedar, 12 ins. diam., bears N.8°E., 72 lks. dist., marked ¼ S34 BT A cedar, 18 ins. diam., bears S.88°E., 48 lks. dist., marked ¼ S3 BT
46.00	Draw, 30 ft. deep, course NE. to N.
46.60	Stock trail, brs. N.20°E and S.20°W., leave rocky, enter sandy land, brs. N. and S.; asc. 60 ft. to
51.00	Thence across nearly flat top, slight N. slope.
57.00	Flat wide divide bet. Paria river and Wahweap, brs. about NW. and S.; gently desc. W. slope.
80.00	On nearly level ground.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 3, 4, 33 and 34, with brass cap marked

Chains	
	T43S | R2E S33 | S34 S4 | S3 T44S 1917 from which
	A cedar, 8 ins.diam.,bears N.42° E., 217 lks.dist., marked T43S R2E S34 BT
	A cedar, 20ins.,diam.,bears S.38½°E., 110 lks.dist., marked T44S R2E S3 BT
	A cedar,12 ins.diam.,bears S.15° W., 268 lks.dist., marked T44S R2E S4 BT
	A cedar, 7 ins.diam.,bears N.11½°W., 159 lks.dist., marked T43S R2E S33 BT
	E. 11 chs. rocky E. slope, and remainder rolling top of mountain; drainage to N and NE on E 57 chs. and to W. on remainder.
	Soil, rocky, gravelly and loose, fine sand; sandstone formation.
	Timber, scattering cedar and pinon on mile.
	Undergrowth, short greasewood, sage, mellow-top and grass.
	Fair grazing land on greater portion of mile.

	West, bet. secs. 4 and 33.
	Over rolling, sandy land, facing W., through scattering cedar and pinon timber.
16.00	Begin descent on SW. slope.
25.00	Bottom of small ravine, 15 ft. deep, from S.80°E. course nearly W.; thence along same.
30.50	Leave ravine, course N.80°W.; continue along S. side.
40.00	On gentle N. slope, in E. edge of small drain, course N. about 3 chs. to ravine, course W.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, 4 ft. base, on bedrock, for ¼ sec. cor., with brass cap marked
	¼ S33 / S4 1917 from which
	A cedar, 18 ins.diam.,bears N.2° E., 64 lks.dist., marked ¼ S33 BT
	A cedar, 14 ins.diam.,bears S.69°W.,126 lks.dist., marked ¼ S4 BT

South Boundary of T.43 S.,R. 2 E.

Chains	
	Gradually descending rolling land, sloping nearly N.
43.20	Ravine, 20 ft. deep, course N.
80.00	On gentle N. slope, 150 ft. below sec. cor. 1 mile E. Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 4,5,32 and 33, with brass cap marked T43S | R2E S32 | S33 S5 | S4 T44S 1917. from which A cedar, 16 ins.diam.,bears N.59° E., 90 lks.dist., marked T43S R2E S33 BT A cedar, 12 ins.diam.,bears S.40½°E.,252 lks.dist., marked T44S R2E S4 BT A cedar, 14 ins.diam.,bears S.15¾°W.,180 lks.dist., marked T44S R2E S5 BT A cedar, 12 ins.diam.,bears N.32° W.,203 lks.dist., marked T43S R2E S32 BT
	Land, rolling; exposure to SW on E. 25 chs. and to NW & N. on remainder; drainage to W.
	Soil, loose sand, sandy and gravelly loams, with an occasinnly sandstone bedrock outcrop.
	Timber, scattering cedar and pinon.
	Undergrowth, short sage, greasewood, wallow-top, oose, cactus and grass. Good grazing land.
	West, bet. secs. 5 and 32.
	Over rolling land, facing nearly N., through scattering cedar and pinon timber.
40.00	On gentle NW. slope, 75 ft. below sec. cor. Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S32 S5 1917 from which A cedar,18 ins.diam.,bears S.53½°E., 226 lks.dist., marked ¼ S5 BT A cedar,20 ins.diam.,bears N.40°W., 365 lks.dist., marked ¼ S32 BT

Chains	
20.00	On gentle NW. slope, 40 ft. below ¼ cor. Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 5,6,31 and 32, with brass cap marked T43S | R2E S31 | S32 S6 | S5 T44S 1917 from which A cedar limb,10 ins.diam.,bears N.44½°E.,125 lks.dist., marked T43S R2E S32 BT A cedar limb,8 ins.diam.,bears S.58°E.,140 lks.dist., marked T44S R2E S5 BT A cedar, 12 ins.diam.,bears S.12°W., 126 lks.dist., marked T44S R2E S6 BT A cedar, 18 ins.diam.,bears N.23°W., 253 lks.dist., marked T43S R2E S31 BT Land, rolling, having a gently N & NW exposure and drainage. Soil, sandy and gravelly loams, some loose sand and a few scattered patches of bedrock. Timber, scattering cedar and pinon. Undergrowth, short sage, greasewood, yellow-top and grass. Good grazing land.

	West, bet. secs. 6 and 31. Over rolling land, facing NW., through scattering cedar and pinon timber.
18.55	Main ravine, 25 ft. deep, course NW.; old brush fence along E. side for short distance.
22.35	Branch ravine, 20 ft. deep, course N.
23.05	Stock trail, brs. N.20°E. and S.20°W.
40.00	On a gentle NE. slope Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S31 / S6 1917 from which A cedar, 12 ins.diam.,bears N.15½°W., 235 lks.dist., marked ¼ S31 BT A cedar, 20 ins.diam.,bears S.85°W., 353 lks.dist., marked ¼ S6 BT

Subdivision of T.43 S.,R. 2 E

Chains	
76.40	Small depression on N. slope; N. 2 chs. dist. of line, under rock rim, 20 ft. high, there is a very small dripping seep in head of gully, course N.
81.92	The cor. of Ts. 43 & 44 S.,Rs. 1 & 2 E.
	Land, rolling, exposure and drainage to NW.
	Soil, sandy and gravelly loams, loose sand; gravel subsoil.
	Timber, scattering cedar and pinon.
	Undergrowth, short sage, greasewood, yellow-top and grass.
	Good grazing land.

Subdivision of T.43 S., R. 2 E.

A portion of the north part of this township had been previously subdivided; after retracing all the old lines, we were unable to find any trace of the original cors.; therefore the subdivision of this tp. in its entirety is regarded as new work and treated as such.

From the cor. of secs. 1,2,35 and 36 on S. bdy. of tp., heretofore described.

Thence,

N. 0°01' W., bet. secs. 35 and 36.

Over rolling, open, sandy bench land, slight exposure to E., through short undergrowth.

18.00	Sand wash, 15 lks. wide, 5 ft. deep, course E.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

S35 | ¼ | S36
1917

dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.

50.50	Wash, 20 lks. wide, 10 ft. deep, course E.
80.00	On gentle SE. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 25,26,35 and 36, with brass cap marked

T43S | R2E
S26 | S25
S35 | S36
1917

Subdivision of T.43 S.,R.2 E

Chains	
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	Land, rolling, slight exposure and drainage to E.
	Soil, deep, loose, fine, dry sand, and sandy loam.
	Undergrowth, dense white-sage, greasewood, shadscale, brigham-tea, oose and grass; 2 to 3 ft. high.
	No timber. Good grazing land.

	East, on random line, bet. secs. 25 and 36.
40.00	Set temp. ¼ sec. cor.
79.92	Intersect E. bdy. of tp., 31 lks. S. of the witness cor. of secs. 25,30,31 and 36, which is 33 lks. N. of true cor. point, described in survey of T.43S.,R.3 E.Gr.51.
	Thence, from true cor. point.
	N. 89°59' W., on true line, bet. secs. 25 and 36.
	Across cove, facing S.
2.75	Base of nearly perpendicular sandstone wall, 140 ft. high, brs. N. and S. for about 5 chs.,thence W.
	Acs. abruptly E. face.
3.20	Top of same, brs. same; thence over rocky, broken top of small bench.
16.00	Cross bend of wall, brs. SE. and SW.
20.60	Begin gradual descent on broken W. slope, 40 ft. to
27.40	Top of nearly perpendicular white sandstone wall, 150 ft. high, brs. about N. and S.; desc. abruptly W. face.
29.20	Base of rock wall, brs. S. for about 12 chs.,thence E., and N.20°E., about 15 chs. to end; also wash, course S. A few scattered cedars along foot of wall; leave rock.
	Asc. steep E. sandy slope, 55 ft. to
34.00	Top of sand spur, projects S. 10 chs. to end.
	Desc. gradual W. slope.
39.96	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

S25
¼
S36
1917

Subdivision of T.43 S.,R.2 E.

Chains	
	dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
47.00	Base of gradual descent, 35 ft. below spur at 34 chs., brs. N. and S.; gradually asc. E. and SE. slope, 65 ft.
79.92	The cor. of secs. 25-26-35 and 36.
	E. 29 chs. rough broken , crosses over rocky bench, with sandstone walls; soil, rocky, sandstone and conglomerate remainder of mile rolling, sandy land; SE. exposure. Undergrowth, sage, greasewood, shadscale and grass. Timber, few sedars at foot of W. rock wall.
	N. 0° 01' W., bet. secs. 25 and 26.
	Over rolling, open, sandy bench land; exposure to E.& NE.
36.00	Swale, drains NE.
40.00	On gentle NE. slope, 50 ft. below sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for $\frac{1}{4}$ sec. cor., with brass cap marked $\frac{1}{4}$ S26 | S25 1917
	dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
	Thence over gentle SE. slope.
73.70	Foot of broken sandstone rim, brs. NW. and SE.; asc. abruptly SW. face, 125 ft. to
77.90	Top of rim and bench, brs. NW. and SE.; thence over rocky top.
80.00	On gentle NE. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in mound of stone, 5 ft. base, on bedrock, for cor. of secs. 23,24,25 and 26, with brass cap marked T43S | R2E S23 | S24 S26 | S25 1917
	raise a mound of stone, 4 ft. base, 3 ft. high, W. of cor. Land, rolling and broken; exposure and drainage to NE. Soil, loose sandy; except on N. 6 chs., where it is mostly rock of dark hard sandstone formation.

Subdivision of T.43 S.,R.2 E.

Chains	
	Undergrowth, dense sage, greasewwod, oose and grass.
	No timber. Good grazing land.

	S.89°59' E., on random line, bet. secs. 24 and 25.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect E. bdy. of tp., 9 lks. N. of the cor. of secs. 19,24,25 and 30, described in survey of T.43S.,R.3E. Gr. 51.
	Thence,
	N. 89°55' W., on true line, bet. secs. 24 and 25.
	Over rolling and broken land, facing to N., lying under sandstone rim to S. of line; through short undergrowth.
	Asc. steep E. slope, 50 ft. to
2.60	Top of sand spur, slopes off to N.; thence desc. general NW. and N. slopes.
12.00	Foot of white sandstone rim or break, brs. S. of line, 1 ch. dist.; rim brs. E. and SW.
16.45	Draw, 50 ft. deep, heads S. under rim about 10 chs., course N.
26.75	Main ravine, course NE., and base of descent, 125 ft. below spur at 2.60 chs.
	Gradually asc. E. and NE. slopes.
36.40	Enter sandrock, brs. NW. and SW.; asc.
38.80	Top and E. edge of ledge, 50 ft. high, at NE end, brs SW.
39.98	On N. slope, barren white sandstone bedrock.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, 5 ft. base, for ¼ sec. cor., with brass cap marked
	¼ S24 / S25 1917
	No loose rock available for accessory mound of stone.
	Note: A ledge rises about 15 ft. high, immediately S. of cor.
41.80	Summit of sandrock or outcrop, brs. N. and S.; desc.
42.50	Leave sandrock, brs. N. and SW.; thence along NE. slope.

Chains	
48.20	Wash, 15 lks. wide, 5 ft. deep, course NE.; asc. SE. slope
61.00	Top of ascent, 145 ft. above wash, on edge of small flat bench, brs. N.70°E and S.70°W., also top of ledges.
69.20	Leave top of bench, brs. NE and SE.; desc. 35 ft. to
73.00	Base of descent, brs NE and SW.; asc. NE slope, 40 ft. to
79.96	The cor. of secs. 23,24,25 and 26.
	Land, rough and broken bench lands; general exposure and drainage to NE.
	Soil, rocky, gravelly and loose sand.
	Undergrowth, short sage, shadscale, greasewood and grass.
	No timber. Fair grazing land.

	N. 0°01' W., bet. secs. 23 and 24.
	Over broken land, facing N., through short undergrowth.
9.30	Leave top of bench, 40 ft. below sec cor., brs. NE & SW. descend more abruptly over broken sandtone ledges.
29.00	Ravine, 175 ft. below sec. cor., course nearly E., and base of descent; leave rocks; asc. rolling land.
40.00	60 ft. above ravine.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	$\frac{1}{4}$ S23 | S24 1917
	dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
	Note: A white circular sandrock, 50 ft. high, brs. west 14 chs. dist.; another lone sandrock brs. N.45½°W.,28 chs. dist.
	Over rolling land, slight exposure to SE.
44.10	Stock trail, brs. NE. and SW .
80.00	On a gentle SW. slope, of small gravelly knoll, 10 ft. high.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in, mound of stone, 4 ft. base, on bedrock, for cor. of secs. 13,14,23 and 24, with brass cap marked

Subdivision of T.43 S.,R.2 E.

Chains	
	T43S | R2E S14 | S13 S23 | S24 1917
	No rocks available for accessory mound, and pits impracticable
	Land, rolling and broken bench; drainage to E.
	Soil, loose sand, rocky and gravelly.
	Undergrowth, sage, greasewood, yellow-top, oose and grass.
	No timber. Fair grazing land.

	S. 89°55' E., on random line, bet. secs. 13 and 24.
40.00	Set temp. ¼ sec. cor.
79.84	Intersect E. bdy. of tp., 5 lks. S. of true point for cor. of secs. 13,18,19 and 24, which is 11.5 chs. S. of the witness cor., described in survey of T.43S.,R.3 E. Group 51.
	Thence,
	N. 89°57' W., on true line, bet. secs. 13 and 24.
	From true cor. point, which falls in dry channel of Wahweap creek, course S.10°E.
	Across bottom land, sandy; through short undergrowth.
7.20	Trail, brs. NW. and SE.
11.00	Leave bottom land, asc., brs. N. and S.
15.00	Base of sandstone wall, 175 ft. high, brs. N.30°W & S.30°E.
	Asc. abruptly E. face.
17.00	Top of wall and rim of Wahweap canyon, 200 ft. above cor., brs. N.30°W and S.30° E.; thence over rolling, sandy bench land, slight slope to E. and SE.
39.92	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S13 / S24 1917 dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
79.84	60 ft. above ¼ cor.
	The cor. of secs. 13,14,23 and 24.
	W. 63 chs. rolling top of bench; slight slope to E. and SE.
	remainder canyon wall and bottom lands, along Wahweap.

Subdivision of T.43 S., R. 2 E.

Chains	
	Soil, deep loose sand, sandy and gravelly loams; with sandstone bedrock along canyon wall.
	Undergrowth, greasewood, sage, oose, yellow-top and grass.
	No timber. Good grazing land.

	N. 0°01' W., bet. secs. 13 and 14.
	Over rolling land, through short undergrowth.
24.30	Wash, 20 lks. wide, 5 ft. deep, course E.
30.30	Stock trail, brs. E. and W.
40.00	In small sag or depression.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	S14 | ¼ | S13 1917
	dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
75.00	Leave top of bench, brs. about E. and W.; desc. steep N. slope, 95 ft. to
78.70	Bottom of gulch, course E.; asc. S. slope, 46 ft. to
80.00	On steep S. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 12 ins. in ground to bedrock, and in mound of stone, 3 ft. base, for cor. of secs. 11,12,13 and 14, with brass cap marked
	T43S | R2E S11 | S12 S14 | S13 1917
	raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Land, rolling bench on S. 75 chs.; N. 5 chs. broken slope of gulch, near edge of Wahweap creek.
	Soil, deep, loose sand, sandy and gravelly; rocky at N. end of mile.
	Undergrowth, greasewood, sage, shadscale and grass.
	No timber. Good grazing.

Chains

S. 89°57' E., on random line, bet. secs. 18 and 13.

40.00 Set temp. ¼ sec. cor.

79.94 Intersect E. bdy. of tp., 7 lks. N. of the cor. of secs. 7,12,13 and 18, described in survey of T.43 S.,R.3 E. Gr.51.

Thence,

N. 89°54' W., on true line, bet. secs. 18 and 13.

Gradually descending over broken bench land; blue clay and rocky soil, through very sparse short undergrowth.

39.97 On SE. edge of small gulch.

Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, 4 ft. base, on bedrock, for ¼ sec. cor., with brass cap marked

$$\frac{S12}{S13}$$
1917

raise a mound of stone, 2 ft. base, 1 ft. high, N. of cor.

40.50 Bottom of small gulch, 20 ft. deep, course SW.

49.30 Edge of Wahweap creek canyon, brs. NW. and SE.; desc.

56.50 Enter bottom of dry channel, 65 ft. below top, course S.20°E.; thence across bottom.

66.00 Leave bottom, brs. NW. and SE.; asc. steep broken E. slope.

75.00 Top of steep ascent and edge of canyon, 90 ft. above bottom.; thence along S. slope.

79.94 The cor. of secs. 11, 12,13 and 14.

Land, rough and broken, with general N. and W. exposures into Wahweap which drains S.

Soil, blue clay and rocky.

Undergrowth, sparse short shadscale and some grass.

No timber. No grazing.

N. 0°01' W., bet. secs. 11 and 12.

Over broken land, through sparse undergrowth.

Asc. steep S. slope, 55 ft. to

3.75 Top of sharp spur, projects S.30°E., and brs. W. & ele. to bench.

Subdivision of T.43 S.,R.2 E.

Chains	
	Descend steep NE. slope 90 ft. to
8.90	Enter creek bottom, brs. NW. and SE.
10.00	Dry channel of Wahweap creek, gravelly bottom, 1 chain wide, course SE.
16.45	Recross same, course S.20°W.; thence along W. edge.
34.75	Wash, 10 lks. wide, 3 ft. deep, course SE.
37.20	On gravelly point, 20 ft. above creek bed.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for witness ¼ sec. cor., with brass cap marked
	¼ W | C S11 | S12 1917
	raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
38.00	Re-enter Wahweap creek bed, small seep in bottom, course SE.
40.00	True point for ¼ sec. cor. in creek bed; impossible to perpetuate cor at this point. No cor. set here.
42.50	Leave creek bed, brs. N.10°W. and SE., thence over low land, about 6 ft. above stream bed.
66.30	Re-enter wide bed of creek, brs. N.20°E and S.20°W.
80.00	True point for cor. of secs. 1,2,11 and 12, falls in channel of creek, no cor. set; for establishment of cor. see lines bet. secs. 1 and 12, and 1 and 2; leave flag at this point.
	Land, broken and nearly level; follows along Wahweap creek, which drains S.
	Soil, gravelly and stony.
	Undergrowth, sparse greasewood and shadscale.
	No timber. No grazing.

	S. 89°54'E., on random line, bet. secs. 1 and 12.
2.69	Set temp. W.C. for secs. 1,2,11 and 12.
40.00	Set temp. ¼ sec. cor.

Chains	
79.90	Intersect E. bdy. of tp., 5 lks. N. of the cor.of secs. 1,6,7 and 12, described in survey of T.43 S.,R.3 E.Gr.51.
	Thence
	N. 89°52' W., on true line, bet. secs. 1 and 12.
	Over rolling, blue clay land, having a slight slope to SW., through very sparse short undergrwoth.
11.20	Main wash, 20 lks. wide, 5 ft. deep, course SW.
39.95	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S1 / S12 1917 dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
77.21	Set a sandstone (no iron post available) 18x12x6 ins., 12 ins. in ground, for the witness cor. of secs. 1,2, 11 and 12, marked with 1 notch on E. and 5 notches on S. edge, with WC on NE. face.
	raise a small mound of stone, W. of cor.
	Corner situated on gentle W. slope, 20 ft. above bed of creek.
78.00	E. bank of Wahweap creek, 15 ft. high, brs. NW. and S.
	Thence across channel of creek; small seep in same, course S.
79.90	The true point for cor. secs. 1,2,11 and 12.
	Land, rolling, having a slight exposure and drainage to SW.
	Soil, deep, loose blue clay; 4th rate.
	Undergwowth very sparse, short shadscale and greasewood.
	No timber. No grazing.

	From true point for cor. of secs.1,2,11, and 12, N. 0°01' W., on random line, bet. secs. 1 and 2.
5.00	Set temp. point for W.C. of secs. 1,2,11 and 12.
40.00	Set temp. ¼ sec. cor.
82.32	Fall 29 lks. E. of the witness cor. of secs. 1,2,35 and 36 on N. bdy. of tp., which is 1.90 chs. N. of its true point; described in the survey of T.42 S.,R.2 E. Gr.49.

Chains	
	therefore true course and distance of mile is N.0°13'W., 80.42 chs.
	This W.C. is situated on top of sandstone ledge, about 165 ft. high, bearing SE. and SW.; the true cor. point falls at base on very steep S. slope.
	Thence,
	S. 0°13' E., on true line, bet. secs. 1 and 2; counting distance from true cor. point.
	Descending over rough, rocky mountainous land, SW face of break, through very little undergrowth.
6.00	Gully, 100 ft. below true cor. point, drains SW.; continue descending along SW. and W. slopes.
28.50	Base of mountainous land, 450 ft. below the W.C., brs. NW. and SE.; thence gradually desc. over rolling, blue clay bench.
40.42	On gentle SW. slope, 65 ft. below base of mountain. Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked S2 | ¼ S1 1917 raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
75.42	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground for witness cor. of secs. 1, 2, 11 and 12, with brass cap marked T43S | R2E / S2 | S1 / S11 | S12 / WC 1917 raise a small mound of stone, W. of cor.
77.60	Left bank of Wahweap creek, 12 ft. high, brs N.80°W and SE., thence across channel.
80.42	The true point for secs. 1, 2, 11 and 12.
	N. 28½ chs. steep, rocky SW. face of mountain; soil, rocky: remainder is rolling bench land; soil, deep, loose blue clay.
	Very little undergrowth; no timber; no grazing.

Chains	
	From the cor. of secs. 2,3,34 and 35 on S. bdy. of tp., heretofore described.
	Thence
	N. 0° 01' W., bet. secs. 34 and 35:
	Over rough mountainous land, general E. face; through medium dense cedar and pinon timber, and short undergrowth
	Desc. N. slope 275 ft. to
27.90	Bottom of rocky gulch; course N.70°E.; asc. S. slope.
35.50	Low rocky spur, 80 ft. above gulch, slopes off to NE.
	Desc. N. slope.
39.55	Perpendicular rim rock, 15 ft. high, brs. NE., and SW for 2 chs., thence to N.
40.00	On rocky NW. slope, 40 ft. below spur.
	Set a brown sandstone, 24x14x4 ins., 18 ins. in rocky mound, on bedrock, for ¼ sec. cor., marked ¼ on W. face, from which
	A pinon limb, 10 ins. diam., bears S.65½°E., 34 lks. dist., marked ¼ S35 BT A pinon, 12 ins., diam., bears N.2° W., 182 lks., dist., marked ¼ S34 BT
	No iron post available.
43.10	Draw, 40 ft. below ¼ cor., course NE.; continue descent.
56.65	Bottom of rocky gulch, 240 ft. below ¼ sec. cor., course N.70°E.; asc. steep SE. slope, 200 ft. to
68.80	Top of high sharp spur, projects NE.; desc. abruptly.
74.10	Gully, 120 ft. below spur, course E.; gradually asc. 65 ft.
79.00	Top of ascent, brs. NE. and SW.
80.00	On rocky, gentle W. slope.
	Set a gray sandstone, 32x25x20 ins., 24 ins. in mound of stone, on bedrock, for the cor. of secs. 26,27, 34 and 35, marked with 1 notch on S. and 2 notches on E. edge; from which
	A pinon, 10 ins. diam., bears N.41½°E., 198 lks. dist., marked T43S R2E S26 BT A cedar, 7 ins. diam., bears S.80½°W., 174 lks. dist., marked T43S R2E S34 BT A pinon, 8 ins. diam., bears N.63½°W., 95 lks. dist., marked T43S R2E S27 BT
	No suitable trees within limits in sec. 35.

Chains	
	No accessory mound of stone built.
	Land, rough mountainous; general exposure and drainage E.
	Soil, rocky of sandstone formation, with some loose sand and gravel.
	Timber, medium dense cedar and pinon on mile.
	Undergrowth, sage, greasewood and some oak brush.

	East, on random line, bet. secs. 26 and 35.
40.00	Set temp. $\frac{1}{4}$ sec. cor.
80.00	Intersect N. and S. line, 7 lks. N. of the cor. of secs. 25,26,35 and 36.
	Thence
	N. 89°57' W., on true line, bet. secs. 26 and 35.
	Over rolling, open, sandy bench land, facing E., through short undergrowth; gradually asc.
28.15	Main ravine, 30 ft. deep, course N.75°E.; asc. more rapidly on SE. slope, 100 ft. to
40.00	On sandy S. slope, 150 ft. above sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for $\frac{1}{4}$ sec. cor., with brass cap marked $\frac{1}{4}$ S26 / S35 1917,
	dig pits, 18x18x12 ins., E. and W., of post, 3ft. dist.
	Desc. 45 ft. to
46.25	Gulch, course S. 2 chs. to junction, thence E., and base of mountainous land, brs. N.20°W. and S.20°E.
	Asc. steep, rocky general E. slope, through scattering cedar and pinon timber.
60.65	Recross same gulch, 75 ft. deep, course NE. to E.
77.00	Top of steep ascent, 500 ft. above base of mountain, brs. N. and SW.
80.00	The cor. of secs. 26,27,34 and 35.
	E. 46¼ chs. rolling bench land; deep, loose sand and sandy loam soil: remainder of mile rough mountainous

Chains	
	exposure and drainage on mile to E.; soil rocky of sandstone formation on mountainous land.
	Timber, scattering cedar and pinon on W. 33¾ chs.
	Undergrowth, sage, greasewood, and shadscale.
	N. 0°01' W., bet. secs. 26 and 27.
	Over broken mountainous land, general E. face descending, through considerable timber of cedar and pinon.
	Descend NE. slope, 70 ft.
7.70	Draw, course E.; gradually asc. SE. slope, 40 ft.
23.45	White sandstone dyke, nearly vertical, 15 ft. high, 30 lks. wide, extends NE. and SW., also top of ascent, brs. NE. and SW.; thence gradually desc. smooth N. slope, 60 ft. to
40.00	On smooth NE. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 12 ins. in ground to bedrock, and 14 ins. in mound of stone, 4 ft. base, for ¼ sec. cor., with brass cap marked
	S27 ¼ S26
	1917
	from which
	A cedar, 6 ins.diam., bears S.33¾°W., 100 lks.dist., marked ¼ S27 BT
	No trees within limits in sec. 26, and no rock available for accessory mound of stone.
54.50	Begin abrupt descent over N. and NE. slopes, 250 ft. to
72.80	Bottom of gulch, course N.70°E.; asc. 30 ft. to
80.00	On top of ascent.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in mound of stone, on bedrock, 5 ft. base, for cor. of secs. 22,23,26 and 27, with brass cap marked
	T43S | R2E
	S22 | S23
	S27 | S26
	1917
	from which
	A pinon,10 ins.diam.,bears N.26½°E., 352 lks.dist., marked T43S R2E S23 BT
	A pinon,14 ins.diam.,bears S.11°E., 54 lks. dist., marked T43S R2E S26 BT

Subdivision of T.43 S., R.2 E.

Chains	
	A pinon limb,7 ins.diam.,bears S.50½°W.,238 lks.dist., marked T43S R2E S27 BT A pinon, 24 ins.diam.,bears N.68½°W., 251 lks.dist., marked T43S R2E S22 BT
	Land, broken mountainous; general exposure and drainage to E. and NE.
	Soil, rocky, sandy and gravelly loams; sandstone formation.
	Timber, scattering cedar and pinon on mile.
	Undergrowth, short, sage, greasewood, shadscale and grass.
	Fair grazing land on portion of mile.
	S.89°57' E., on random line, bet. secs. 23 and 26.
40.00	Set temp. ¼ sec. cor.
80.06	Intersect the cor. of secs. 23,24,25 and 26.
	Thence
	N. 89°57' W., on true line, bet. secs. 23 and 26.
	Over broken, rocky bench, through short undergrowth.
1.70	Rim of top of bench and small break, brs. NW. and SE.
	Desc. abruptly 75 ft. over ledge.
5.20	Base of break, brs. NW. and SE.; thence over rolling, open, sandy bench land.
40.03	Set an iron post, 3 ft.long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S23 / S26 1917 dig pits, 18x18x12 ins., E. and W.,of post, 3ft. dist.
	Gradually asc. general E. slope.
72.75	Gulch, 50 ft. deep, course NE., and base of mountainous land, brs. N. and S.20°E.; asc. abruptly 135 ft., through scattering cedar and pinon timber.
80.06	260 ft. above the ¼ sec. cor.
	The cor. of secs. 22,23,26 and 27.
	E. 72¼ chs. rolling and broken bench land; soil, deep, loose sand and sandy loam, except on the E. 5 chs. which is rocky: remainder of mile is mountainous, with rocky soil; drainage to E.

Chains	
	Undergrowth, sage, greasewood, oose and grass.
	Timber, scattering cedar and pinon on W. 7.30 chs.
	Fair grazing land.

	N. 0°01' W., bet. secs. 22 and 23.
	Over broken mountainous land, general E. face, through scattering cedar and pinon timber.
	Gradually descending NE. slope, 135 ft. to
14.50	Bottom of gulch, course NE.; continue along E. slope.
29.90	Bottom of rocky gulch, 60 ft. deep, course E.
36.60	Stock trails, brs. NE. and SW.
40.00	On rocky NE. slope, near foot of mountain, 165ft. below sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, on bedrock, 5 ft. base, for ¼ sec. cor., with brass cap marked marked
	S22 | S23 (¼)
	1917
	raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. No trees within limits.
45.85	Wash, 20 lks. wide, 35 ft. below ¼ cor., course SE., also base of mountain and leave timber and rocky land, brs. N.20°W. and S.20°E.; thence over rolling, open sandy bench land, facing to E. and NE.
53.55	Wash, 20 lks. wide, 5 ft. deep, course NE.
79.90	Shallow wash, 10 lks. wide, course NE. to E.
80.00	90 ft. below ¼ sec. cor.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 14,15,22 and 23, with brass cap marked
	T43S | R2E S15 | S14 S22 | S23 1917
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	S. 46 chs. mountainous land; soil, rocky: remainder of mile rolling bench; soil, deep loose sand and sandy loam.

Chains	
	exposure and drainage to E.
	Timber, scattering cedar and pinon on S. 46 chs.
	Undergrowth, short sage, greasewood, oose and grass.
	Fair grazing land.

	S. 89°57' E., on random line, bet. secs. 14 and 23.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect N. and S. line, 2 lks. N. of cor. of secs. 13,14,23 and 24.
	Thence
	N. 89°56' W., on true line, bet. secs. 14 and 23.
	Over rolling, open, sandy bench land, through short undergrowth; gradually asc. along SE. slope, 75 ft. to
19.65	Top of ascent on low gravelly hill, brs. N. and S.
	Gradually desc. W. slope, 35 ft. to
32.00	Base of descent, brs. N. and S.; thence over slight NE. slope.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ S14 / S23 1917
	dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
40.50	Stock trail, brs. NE. and SW.
79.80	Shallow wash, course NE.
80.00	60 ft. above the ¼ sec. cor.
	The cor. of secs. 14,15,22 and 23.
	Land, rolling bench land; general drainage to E.
	Soil, deep, loose sand, sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose and some grass.
	Good grazing land. No timber.

	N. 0°01' W., bet. secs. 14 and 15.
	Over rolling, open, sandy bench land, slight slope to E., through short undergrowth.

Chains	
3.70	Shallow wash, 15 lks. wide, course E.
23.20	Shallow wash, course E. to SE.
30.00	Begin descent into deep ravine.
37.25	Bottom of deep ravine, 160 ft. deep, course E. to NE.
	Asc. steep S. slope, 100 ft. to
40.00	On steep S. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, on bedrock, 4 ft. base, for the ¼ sec. cor., with brass cap marked
	¼ S15 | S14 1917
	No rock available for accessory mound, and pits impracticable.
43.30	Top of ascent on N. edge of ravine, 60 ft. above ¼ cor.
71.40	Large stock trail, brs. about E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 10,11,14 and 15, with brass cap marked
	T43S | R2E S10 | S11 S15 | S14 1917
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	Land, rolling and gently rolling bench land; slight exposure and drainage to E.
	Soil, deep, loose sand, sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose, yellow-top and grass.
	No timber. Good grazing land.

	S. 89°56' E., on random line, bet. secs. 11 and 14.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect N. and S. line, 5 lks. S. of cor. secs. 11,12, 13 and 14.
	Thence

Subdivision of T.43 S.,R.2 E.

Chains	
	N. 89°58' W., on true line, bet. secs. 11 and 14.
	Asc. steep SE. slope, 65 ft. to
5.00	Top of ascent and edge of bench land, brs. N. and SW.; thence over rolling, open , sandy bench land, through short undergrowth.
39.98	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S11 / S14 1917 dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
50.00	Stock trail, brs. N.70°E. and S.80°W.
79.96	The cor. of secs. 10,11,14 and 15.
	Land, rolling bench; slight exposure to E.
	Soil, deep, loose sand, some sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose, yellow-top and grass.
	No timber. Good grazing land.

	N. 0° 01' W., bet. secs. 10 and 11.
	Over gently rolling, open, sandy bench land, through short undergrowth.
40.00	Set an iron post, 3 ft. long, 1in dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked S10 ¼ S11 1917 dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
43.80	Stock trail, brs. NE. and SW.
67.60	Old Navajo trail, brs. N.70°W. and S.70°E.
80.00	On nearly level land.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 2,3,10 and 11, with brass cap marked. T43S / R2E S3 / S2 S10 / S11 1917

Chains	
	dig pits, 18x18x12 ins., in each sec.,5½ ft. dist.
	Land, gently rolling bench; slight exposure to E.
	Soil, loose, deep sand, sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose and grass.
	No timber. Good grazing land.

	S. 89°58' E., on random line, bet. secs. 2 and 11.
40.00	Set temp. ¼ sec. cor.
80.02	Intersect N. and S. line, 5 lks. S. of true cor. point for secs. 1,2,11 and 12.
	Thence
	West, on true line, bet. secs. 2 and 11.
	Over bottom land along Wahweap creek, through short undergrowth; gently asc. from channel of creek.
0.50	Leave channel of creek, from NW. to S.
26.00	Leave bottom; asc. over broken E. slope, brs. NW. and SE
38.00	Top of ascent and edge of bench, 135 ft. above base, brs. NW. and S.; thence over gently rolling bench.
40.01	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S2 / S11 1917
	dig pits, 18x18x12 ins.,E. and W. of post, 3 ft. dist.
80.02	The cor. of secs. 2,3,10 and 11.
	W. 42 chs. rolling bench land; remainder creek bottom and slope of bench.
	Soil, loose sand, blue clay and gravel.
	Undergrowth, short sage, greasewood, shadscale and oose.
	No timber. Fair grazing.

	N. 0° 03' W., on random line, bet. secs. 2 and 3.
40.00	Set temp. ¼ sec. cor.
80.57	Intersect N. bdy. of tp., 14 lks. W. of the cor. of secs. 2,3,34 and 35, described in survey of T.42S.,R.2E Group 49.

Chains	
	Thence
	S. 0°07' E., on true line, bet. secs. 2 and 3.
	Over broken land, descending towards Wahweap creek, through short undergrowth.
4.30	Top of white sandstone wall, 150 ft. high, brs. NW. and SE.; desc. abruptly.
18.60	Base of steep descent; enter bottom land, brs. NW. and SE.
33.40	Left bank of Wahweap creek, brs. NW. and SE.; thence over dry channel, course SE.; 250 ft. below sec. cor.
37.50	Right bank, brs. NW. and SE.
40.57	Set an iron post, 3 ft. long, 1 in. dia., 20 ins. in ground, to bedrock, and in mound of stone, for $\frac{1}{4}$ sec. cor., with brass cap marked S3 $\frac{1}{4}$ S2 1917 raise a small mound of stone, W. of cor.
54.60	Leave bottom land, brs. NW. and SE.; asc. abruptly over sandstone wall, 115 ft. to
56.20	Top of wall and edge of bench, brs. NW. and SE.; thence over rolling bench.
80.57	The cor. of secs. 2,3,10 and 11.
	Land, rolling and broken; N. and S. exposures into Wahweap creek, which drains SE.
	Soil, loose sand, gravelly and rocky.
	Undergrowth, short sparse sage, greasewood and shadscale.
	No timber. Poor grazing.

	From the cor. of secs. 3,4,33 and 34 on S. bdy. of tp., heretofore described.
	Thence
	N. 0°02' W., bet. secs. 33 and 34.
	Over rolling mountain top, through scattering cedar and pinon timber.
20.00	Wide flat divide, bet. Paria river and Wahweap, brs. N.70° W. and SE.

Chains

Gradually desc. N. slope.

27.90 Ravine, 10 ft. deep, course NE.

40.00 On gentle NE. slope.

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

	$\frac{1}{4}$	
S33		S34
	1917	

from which

A cedar, 6 ins.diam., bears N.70½°E., 71 lks.dist., marked $\frac{1}{4}$ S34 BT

A cedar, 8 ins.diam., bears N.4½°W., 195 lks.dist., marked $\frac{1}{4}$ S33 BT

80.00 Set an iron post, 3 ft.long, 2 ins.diam., 24 ins. in ground, for cor. of secs. 27,28,33 and 34, with brass cap marked

T43S	R2E
S28	S27
S33	S34

1917

from which

A cedar, 6 ins.diam., bears N.18½°E., 266 lks.dist., marked T43S R2E S27 BT

A cedar, 8 ins.diam., bears S.60½°E., 228 lks.dist., marked T43S R2E S34 BT

A cedar, 6 ins.diam., bears S.30½°W., 331 lks.dist., marked T43S R2E S33 BT

A cedar, 10 ins.diam., bears N.22½°W., 200 lks.dist., marked T43S R2E S28 BT

Land, rolling mountain top; gentle NE. exposure & drainage.

Soil, deep, loose sand, sandy and gravelly loams.

Timber, scattering cedar and pinon on mile.

Undergrowth, white sage, brigham-tea, oose and grass.

Good grazing land.

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

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

79.92 Intersect N. and S. line, 12 lks. S. of cor. secs. 26, 27,34 and 35.

Thence

S. 89°55' W., on true line, bet. secs. 27 and 34.

Over broken mountainous land, general NE. face, through scattering cedar and pinon timber.

Subdivision of T.43 S.,R.2 E.

Chains	
	Asc. abruptly E. slope, 55 ft. to
3.50	Top of rocky point, projects NE.; desc. abruptly 70 ft.
9.00	Gulch, course NE.; asc. abruptly over broken ledges.
18.30	Top of ascent and broken rim, 150 ft. above gulch, brs. NE. and SW.; thence over broken N. slope.
39.96	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S27 / S34 1917 from which A cedar, 8 ins.diam.,bears S.43½°E., 25 lks. dist., marked ¼ S34 BT A cedar, 6 ins.diam.,bears N.2½°W., 10 lks.dist., marked ¼ S27 BT
56.90	Top of rim ledge, 15 ft. high, brs. NE. and SW.; desc.
65.90	Ravine, 20 ft. deep, course NE.
79.92	The cor. of secs. 27,28,33 and 34.
	Land, broken mountainous; general N. and NE. exposure and drainage.
	Soil, rocky of sandstone formation, with loose sand.
	Timber, scattering cedar and pinon.
	Undergrowth, short sage, brigham-tea, oose and grass.
	Fair grazing land.

	N. 0°02' W., bet. secs. 27 and 28.
	Over rolling mountain top; slight general slope to N. through scattering cedar and pinon timber.
40.00	On N. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S28 | S27 1917 from which A cedar, 5 ins.diam.,bears S.16½°E., 55 lks.dist., marked ¼ S27 BT A cedar,13 ins.diam.,bears N.61°W.,75 lks.dist., marked ¼ S28 BT

Chains	
60.00	Begin descent over N. slope, brs. NW and NE.
80.00	On N. slope, 75 ft. below 60ch. point.
	Set an iron post, 3 ft.long, 2 ins. dia., 12 ins. in ground, to bedrock, and 12 ins. in mound of stone, for the cor. of secs. 21,22,27 and 28, with brass cap marked

T43S | R2E
S21 | S22
S28 | S27
1917

from which

A cedar, 6 ins.diam.,bears N.80¼°E., 96 lks.dist., marked T43S R2E S22 BT

A cedar, 8 ins.diam.,bears S.52½°E., 170 lks.dist., marked T43S R2E S27 BT

A cedar, 7 ins.diam.,bears S.23¼°W., 57 lks.dist., marked T43S R2E S 28 BT

A cedar,12 ins.diam,,bears N.73°W.,98 lks.dist. marked T43S R2E S21 BT

Land, rolling mountain top; slope and drainage to N & NE.

Soil, deep, loose sand, gravelly and rocky of red sandstone formation.

Timber, scattering cedar and pinon.

Undergrowth, sage, brighan-tea, yellow-top and grass.

Good grazing land.

N. 89°55' E., on random line, bet. secs. 22 and 27.

40.00	Set temp. ¼ sec. cor.
79.90	Intersect N. and S. line, 5 lks. N. of the cor. of secs. 22,23;26 and 27.

Thence

S. 89°57' W., on true line, bet. secs. 22 and 27.

Over broken mountainous land, facing to NE., through scattering cedar and pinon timber.

Asc. broken NE. slope, 150 ft. to

15.20	Top of broken sandstone spur, from SW. to N.; desc. 70 ft.
39.20	Gulch, 20 ft. deep, course NE.
39.95	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, 5 ft. base, on bedrock, for ¼ sec. cor. with brass cap marked

Subdivision of T.43 S.,R.2 E.

Chains	
	$\frac{1}{4}$ $\frac{S22}{S27}$ / 1917 from which
	A cedar, 6 ins.diam.,bears S.80½°W., 206 lks.dist., marked $\frac{1}{4}$ S27/BT
	A cedar,10 ins.diam.,bears N.24°W., 225 lks.dist., marked $\frac{1}{4}$ S22/BT
42.00	A white sandstone butte about 150 ft. high, brs. N. of line about 10 chs. dist.
70.00	Top of low sandstone rim, 150 ft. above $\frac{1}{4}$ sec. cor., brs. N.30°E and S.30°W.; desc. 20 ft. to
79.90	The cor. of secs. 21,22,27 and 28.
	Land, broken mountainous; general face and drainage to NE.
	Soil, rocky, sandstone bedrock, loose sand and gravelly.
	Timber, scattering cedar and pinon on mile.
	Undergrowth, short sage, brigham-tea, yellow-top and grass.

	N. 0°02' W., bet. secs. 21 and 22.
	Over broken mountainous land, through scattering cedar and pinon timber; gradually desc. N. slope, 30 ft.
4.00	Gulch, course NE.; asc. SE. slope, 65 ft. over ledges.
8.75	Top of ascent and ledges, brs. NE. and SW.; thence gradually desc. smooth N. slope.
40.00	On rocky N. slope, at top of S. edge of small gulch, 70 ft. below the 8.75 ch. point.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, on bedrock, 5 ft. base, for the $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{1}{4}$ S21 | S22 / 1917 from which
	A cedar, 8 ins.diam.,bears S.68°W., 138 lks.dist., marked $\frac{1}{4}$ S21/BT
	A cedar,12 ins.diam.,bears N.32°E., 90 lks.dist., marked $\frac{1}{4}$ S22/BT
	Desc. 35 ft.
44.00	Small gulch, course NE.; asc. 30 ft.
46.75	Top of N. side gulch; thence gradually desc.

Chains	
59.80	Top of sandstone rim, brs. E. and W.; desc. abruptly over ledges, 125 ft. to
69.00	Gulch, course N.70°E.; asc. 50 ft. to
74.00	Top of N. side gulch; thence gradually desc. N. slope.
80.00	On NW. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in mound of stone, on bedrock, 4 ft. base, for cor. of secs. 15,16,21 and 22, with brass cap marked

T43S	R2E
S16	S15
S21	S22

1917

from which

A cedar, 8 ins.diam.,bears N.47½°E., 333 lks.dist., marked T43S R2E S15 BT
A cedar,10 ins.diam.,bears S.26°E., 169 lks.dist., marked T43S R2E S22 BT
A cedar,12 ins.diam.,bears S.57½°W., 58 lks.dist., marked T43S R2E S21 BT
A cedar, 8 ins.diam.,bears N.57¾°W., 47 lks.dist., marked T43S R2E S16 BT

Land, broken mountainous; general NE. face and drainage.

Soil, rocky, gravelly and some sandy loam.

Timber, scattering cedar and pinon.

Undergrowth, short sage, yellow-top and grass.

Fair grazing land.

N. 89°57' E., on random line, bet. secs. 15 and 22.

40.00	Set temp. ¼ sec. cor..
79.90	Intersect N. and S. line, 2 lks. N. of cor. of secs. 14,15,22 and 23.
	Thence
	S. 89°58' W., on true line, bet. secs. 15 and 22.
	Ascending over rolling, open land, facing E., through short undergrowth.
8.70	Shallow rocky wash, 3 ft. deep, course NE.; enter mountainous land, scattering cedar and pinon timber and rocky soil, brs. N.20°W. and S.20°E.; thence more rapid ascent.
28.60	Small ravine, 10 ft. deep, course NE.

Subdivision of T.43 S.,R.2 E.

Chains	
39.95	On top of low ridge, 210 ft. above sec. cor., brs. N. & S. Set an iron post, 3 ft. long, 1 in. dia., 20 ins. in ground, to bedrock, and in mound of stone, for ¼ sec. cor., with brass cap marked ¼ S15 / S22 1917 raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor. A cedar, 18 ins. dia., bears S.4°45' W., 400 lks. dist., marked ¼ S22 BT No suitable trees within limits in sec. 15.
46.50	Small ravine, 10 ft. deep, course NE.; thence gradually ascending over broken general NE. slope, 125 ft. to
79.90	The cor. of secs. 15,16,21 and 22.
	Land, rolling and broken mountainous; general NE. face, on W. 71 chs; rolling bench land on remainder.
	Soil, rocky, gravelly and loose sand.
	Timber, scattering cedar and pinon on W. 71 chs.
	Undergrowth, short sage, greasewood, yellow-top and grass.
	Fair grazing land.

	N. 0°02' W., bet. secs. 15 and 16.
	Over low broken mountainous land, through scattering cedar and pinon timber; desc. N. slope, 35 ft. to
7.00	Ravine, 35 ft. deep, course N.70°E.
23.00	Main gulch, rocky, course E.; becomes considerable deeper to E. of line.
24.30	Top of N. side of gulch; thence gradually desc.
39.70	Stock trail, brs. NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 12 ins. in ground to bedrock, and 12 ins. in mound of stone, for ¼ sec. cor., with brass cap marked ¼ S16 / S15 1917 from which

chains	
	A cedar, 7 ins.diam.,bears N.78½°E., 415 lks.dist., marked ¼ S15 BT
	A cedar, 6 ins.diam.,bears N.20½°W., 29 lks.dist., marked ¼ S16 BT
	Thence over generel NE. slope.
69.00	Draw, 10 ft. deep, course NE.
70.00	Low sandy spur, projects NE.; desc. 55 ft.
80.00	In head of small draw,10 ft. deep, course NE.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 9,10,15 and 16, with brass cap marked

T43S | R2E
S9 | S10
S16 | S15

1917 from which

A cedar, 8 ins.diam.,bears N.74½°E.,455 lks.dist., marked T43S R2E S10 BT
A cedar,14 ins.diam.,bears S.3½°W., 200 lks.dist., marked T43S R2E S16 BT
A cedar, 5 ins diam.,bears N.51½°W., 104 lks.dist., marked T43S R2E S9 BT

No trees within limits in sec. 15, and no accessories built.

Con. situated at base of mountainous land, brs. NW. & SE.

Land, broken and rolling mountainous; general NE. exposure and drainage.

Soil, rocky, considerable bedrock, gravelly and some loose sand; sandstone formation.

Timber, scattering cedar and pinon.

Undergrowth, short sage, brigham-tea, and yellow-top.

Fair grazing.

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

40.00	Set temp. ¼ sec. cor.
79.86	Intersect W. and S. line, 9 lks. N. of the cor. of secs. 10,11,14 and 15.

Thence

N. 89°58' W., on true line, bet. secs. 10 and 15.

Over rolling, open bench land, through short undergrowth. Gently asc.

18.00	Draw, 15 ft. deep, course NE.

Subdivision of T.43 S., R.2 E.

Chains	
33.00	Enter some scattering cedar timber, and some rocky land, brs. NW. and S.
39.93	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S10 / S15 1917 from which A cedar, 10 ins. diam., bears S.48°E., 210 lks. dist., marked ¼ S15 BT A cedar, 11 ins. diam., bears N.85°E., 245 lks. dist., marked ¼ S10 BT Note: A sandrock, approximatly 50x80x40ft., brs. N.70°W., 4chs.
55.00	Top of low broken sandstone outcrop, 50 ft. above ¼ cor. brs. N. and S.
59.30	Draw, 20 ft. deep, course NE.
79.86	The cor. of secs. 9,10,15 and 16.
	Land, rolling bench; general exposure and drainage to E. and NE.
	Soil, loose sand, gravelly and sandstone bedrock.
	Timber, scattering cedars on W. 47 chs.
	Undergrowth, short sage, brigham-tea, oose, yellow-top and grass. Fair grazing land on greater portion.

	N. 0°02' W., bet. secs. 9 and 10.
	Over rolling land, slope to E., through scattering cedars.
10.50	Leave scattering cedars, brs. E. and W.
18.95	Stock trail, brs. NE. and SW.
25.50	Draw, 8 ft. deep, course N.40°E.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked S9 ¼ S10 1917 dig pits. 18x18x12 ins., N. and S. of post, 3 ft. dist.
63.15	Old Navajo trail, brs. E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 3,4,9 and 10, with brass cap marked

Subdivision of T.43 S., R.2 E.

Chains	
	T43S | R2E S4 | S3 S9 | S10 1917
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	Land, gently rolling bench; exposure to NE. and N.
	Soil, deep, loose snad, sandy and gravelly loams.
	Undergrowth, sage, brigham-tea, oose and grass.
	Timber, scattering cedars oh S. 10½ chs.
	Fair grazing land.

	S. 89°58' E., on random line, bet. secs. 3 and 10.
40.00	Set temp. ¼ sec. cor.
79.94	Intersect N. and S. line, 16 lks. S. of cor. of secs. 2,3,10 and 11.
	Thence
	S. 89°55' W., on true line, bet. secs. 3 and 10.
	Over rolling bench land, slight slope to E., through short undergrowth.
39.97	On a gentle SE. slope, 25 ft. above sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ S3 S10 1917
	raise a small mound of stone, N. of cor.
45.00	Top of raise, 15 ft. above ¼ cor., brs. NE. and SW.
79.94	The cor. of secs. 3,4,9 and 10.
	Land, rolling bench; slight exposure to E. and to NW.
	Soil, deep, loose sand, sandy and gravelly loams.
	Undergrowth, sage, brigham-tea, oose and scant grass.
	No timber. Fair grazing.

	N. 0°07' W., on random line, bet. secs. 3 and 4.
40.00	Set temp. ¼ sec. cor.
80.55	Intersect N. bdy. of tp., 5 lks. E. of the true point for cor. of secs. 3,4,33 and 34, which is 2.00 chs. E.

Subdivision of T.43 S., R.2 E

Chains	
	of the witness cor.
	Thence, from true cor. point.
	S. 0°09' E., on true line, bet. secs. 3 and 4.
	The cor. point falls in dry channel of Wahweap creek, course about E.
0.80	S. bank of channel, brs. E. and NW.; gently asc. over bottom land, through short undergrowth.
3.00	Base of red sandstone wall, brs. E. and NW.; asc. abruptly over broken wall, 125 ft.
9.50	Top of wall and abrupt ascent, brs. E. and NW.; thence over broken bench land.
26.10	Draw, 20 ft. deep, course N.20°W.
30.90	Stock trail, brs. N.20°E. and S.20°W.
40.55	On gentle S. slope, rocky ground.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, 4 ft. base, on bedrock, for $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{1}{4}$ S4 | S3 1917
	No rock available for accessory mound, and pits impracticable on account of bedrock.
42.50	Ravine, 20 ft. deep, course NE.
64.30	Main gulch, 70 ft. deep, course N.30°E.
	Asc. N. slope, 125 ft. to
80.55	At top of ascent.
	The cor. of secs. 3,4,9 and 10.
	Land, broken, having a general exposure and drainage NE.
	Soil, loose sand, sandstone bedrock and gravelly.
	Undergrowth, short sage, brigham-tea, yellow-top & grass.
	No timber. Fair grazing land.
	From the cor. of secs. 4,5,32 and 33 on S. bdy. of tp., heretofore described.
	Thence

Chains	
	N. 0°03' W., bet. secs. 32 and 33.
	Over rolling land, through scattering cedar and pinon timber.
	Gradually descend N. slope, 55 ft. to
8.95	Bottom of ravine, course nearly W.; asc. gradually over S. and SW. slopes, 70 ft. to
21.00	Top of ascent, brs. E. and W.; thence over higher land, having a gentle W. and NW. exposures; desc. 45 ft. to
35.00	Depression on W. slope, drains W.; asc. 15 ft. to
40.00	On gentle W. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

¼
S32 | S33
1917 from which

A cedar, 8 ins.diam.,bears S.13°E., 88 lks.dist., marked ¼ S33 BT
A cedar limb,5 ins.diam.,bears N.39½°W., 75 lks. dist., marked ¼ S32 BT

Cor. stands on low,wide, flat divide, bet. Paria river and Wahweap creek, gemeral bearing NW. and S.80°E.

Thence slightly descending N. slope.

80.00 On a gentle NW. slope, 70 ft. below ¼ cor.

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

T43S | R2E
S29 | S28
S32 | S33
1917 from which

A cedar,8 ins. diam., bears N.46¾°E., 508 lks. dist.,marked T43S R2E S28 BT
A cedar limb,8 ins.diam.,bears S.3½°W., 256 lks. dist., marked T43S R2E S32 BT
A cedar limb,6 ins.diam.,bears N.87¾°W., 515 lks. dist., marked T43 SR2E S29 BT

No trees within limits in sec. 33; pits impracticable, loose sand.

Land, rolling mountain top; drainage to W. and SW. on S. ½ mile and to N. on remainder.

Subdivision of T.43 S.,R.2 E.

Chains	
	Soil, deep, loose sand, sandy and gravelly loams.
	Timber, scattering cedars and pinon on mile.
	Undergrowth, short sagebrush, greasewood, oose, wellow-top and grass. Good grazing land.

	East, on random line, bet. secs. 28 and 33.
40.00	Set temp. ¼ sec. cor.
80.10	Intersect N. and S. line, 2 lks. N. of the cor. of secs. 27,28,33 and 34,
	Thence
	N. 89°59' W., on true line, bet. secs. 28 and 33.
	Over rolling mountain top, through scattering cedar and pinon timber.
40.05	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked S28 ¼ S33 1917 . from which
	A cedar, 10 ins.diam.,bears S.7½°W., 160 lks.dist., marked ¼ S33/BT
	No trees within limits in sec 28; pits impracticable, on account of deep, loose sand.
75.00	Low flat ridge, brs. N.20°E and S.
80.10	The cor. of secs. 28,29,32 and 33.
	Land, rolling mountain top; slight slope to N. & NW.
	Soil, deep, loose sand, some sandy and fine gravelly loams
	Timber, very scattered cedar and pinon on mile.
	Undergrowth, sage, greasewood, oose, brigham-tea & grass.
	Good grazing land.

	N. 0°03' W., bet. secs. 28 and 29.
	Over rolling mountain top; sloping to N., through some scattered cedars; undergrowth of short sage etc.
30.00	Bottom of swale, 65 ft. below sec. cor., course NE.
	Asc. 15 ft. to

Chains	
40.00	On a gentle W. slope, at top of raise, brs. N.30°E & SW. Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S29 | S28 1917 dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
	No trees within limits.
	Gradually desc. NW. slope, 140 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. diam., 24 ins. in ground, for cor. of secs. 20, 21, 28 and 29, with brass cap marked T43S | R2E S20 | S21 S29 | S28 1917 from which
	A cedar, 16 ins.diam.,bears N.52°E., 417 lks. dist., marked T43S R2E S21 BT A cedar limb,7 ins.diam.,bears S.37½°E.,180 lks. dist., marked T43S R2E S28 BT A cedar, 8 ins.diam.,bears S.6°W., 290 lks. dist., marked T43S R2E S29 BT A cedar, 10 ins.diam.,bears N.40¼°W., 338 lks. dist., marked T43S R2E S20 BT
	Land, rolling mountain top; general exposure to N.
	Soil, sandy and gravelly loams, some loose sand.
	Timber, very scattered cedar and pinon.
	Undergrowth, short sage, greasewood, shadscale and grass.
	Good grazing land.

	S. 89°59' E., on random line, bet. secs. 21 and 28.
40.00	Set temp, ¼ sec. cor.
80.12	Intersect N. and S. line, 5 lks. S. of the cor. of secs. 21,22,27 and 28.
	Thence
	S. 89°59' W., on true line, bet. secs. 21 and 28.
	Over rolling mountain top, through scattering cedar and pinon timber.

Subdivision of T.43 S.,R. 2 E.

Chains	
	Asc. abruptly NE. slope, over broken sandstone ledges.
4.50	Top of rim and ledges, brs. NW. and S.,65 ft. above cor.
	Thence over rolling top.
30.00	Begin descnt over W. and NW. slopes, brs. N. and SW.
40.06	On NW. slope, 30 ft. below top at 30 chs.
	Set an iron post, 3 ft. lomg, 1 in. dia., 12 ins. in ground, to bedrock, and 14 ins. in mound of stone, for ¼ sec. cor., with brass cap marked
	¼ S21 / S28 1917 from which
	A cedar, 5 ins.diam., bears S.2° W., 79 lks. dist., marked ¼ S28 BT
	A cedar, 7 ins.diam., bears N.42½° W., 194 lks.dist., marked ¼ S21 BT
53.00	Ravine, 50 ft. below ¼ cor., course NE.; asc. 50 ft. to
60.00	Ridge, brs. N.30°E. and S.30°W.; desc. 40 ft.
76.80	Wash, near head, course NE.
80.12	The cor. of secs. 20,21,28 and 29.
	Land, rolling mountainous; general N. exposure & drainage.
	Soil, sandy and gravelly loams, scattered rocky patches, and some loose sand.
	Timber, scattering cedar and pinon.
	Undergrowth, sage, greasewood, brigham-tea, oose & grass.
	Good grazing land.

	N. 0° 03' W., bet. secs. 20 and 21.
	Over rolling land, sloping N., through scattering cedar and pinon timber.
26.90	Shallow ravine, course N.10°E.
40.00	On gentle N. slope, 70 ft. below sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ / S20 | S21 / 1917 from which

Chains	
	A cedar, 12 ins. diam., bears N.85°E., 183 lks. dist., marked ¼ S21 BT
	A cedar limb, 5 ins. diam., bears N.10¼°W., 380 lks. dist., marked ¼ S20 BT
48.20	Ravine, 20 ft. deep, course NE.
68.00	Ravine, 10 ft. deep, course NE; leave all timber, E. and W.
72.40	Ravine, 20 ft. deep, course N.70°E., at base of gentle descent, 45 ft. below ¼ cor.; gently asc.
79.90	Stock trail, brs. N.70°E. and S.70°W.
80.00	On a slight SE. slope.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 16, 17, 20 and 21, with brass cap marked
	T43S | R2E S17 | S16 S20 | S21 1917
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	Land, rolling; exposure and drainage to N. and NE.
	Soil, light, fine sandy and gravelly loams, some loose sand and patches of sandrocks.
	Timber, scattering cedar and pinon on S. 68 chs.
	Undergrowth, short sage, greasewood, oose, yellow-top and some grass. Good grazing.

	N. 89°59' E., on random line, bet. secs. 16 and 21.
40.00	Set temp. ¼ sec. cor.
80.10	Intersect the cor. of secs. 15, 16, 21 and 22.
	Thence,
	S. 89°59' W., on true line, bet. secs. 16 and 21.
	Over broken land, facing to E., through scattering cedar timber; rocky sandstone formation land.
15.00	Top of ascent and leave rocky land, 75 ft. above sec. cor., brs. NE. and SW.; thence over more rolling land, facing N. and NE.
40.05	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

Subdivision of T.43 S., R.2 E.

Chains

S16
¼
S21
1917. from which

A cedar, 6 ins.dia.,bears N.40½°E., 54 lks.dist., marked ¼ S16 BT
A cedar, 8 ins.diam.,bears S.86½°E., 305 lks.dist., marked ¼ S21 BT

39.10 Main ravine, 25 ft. deep, course NE.; thence over slight SE. slope; leave all timber, brs. NE. and SW.

79.35 Stock trail, brs. N.70°E. and S.70°W.

80.10 The cor. of secs. 16,17,20 and 21.

Land, rolling and broken; general E. and NE. exposure.

Soil, rocky on E. 15 chs.; remainder sandy and gravelly loams.

Undergrowth, short sage, yellow-top, oose and shadscale.

Timber, very scattered cedars on E. 59 chs.

N. 0° 03' W., bet. secs. 16 and 17.

Over rolling land, slightly ascending, through few scattered cedars.

19.00 Wash, 20 lks. wide, 10 ft. deep, course NE.

25.00 Top of low sandy ridge, 60 ft. above sec. cor., brs. NE. and SW.; gradually desc.

40.00 On NW. slope, 20 ft. below ridge.

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

S17 | S16
1917 from which

A cedar, 5 ins.diam.,bears N.45°E., 62 lks.dist., marked ¼ S16 BT
A cedar,12 ins.diam.,bears S.60°W., 178 lks.dist., marked ¼ S17 BT

40.80 Wash, 40 lks. wide, 2 ft. deep, course NE.; asc.

[illegible] Top of sandy spur, 60 ft. above ¼ cor., projects E.; thence along general E. slope, ascending, 75 ft. to

[illegible] Sandy ridge and top of ascent, brs. N.30°E and S.30°W. Desc. 15 ft. to

80.00 On NW. slope.

Subdivision of T.43 S., R.2 E.

Chains	
	Set an iron post, 3 ft.long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 8,9,16 and 17, with brass cap marked T43S | R2E S8 | S9 S17 | S16 1917 from which A cedar, 8 ins.diam.,bears N.84°E., 79 lks.dist., marked T43S R2E S9 BT A cedar, 7 ins.diam.,bears S.21½°E., 56 lks.dist., marked T43S R2E S16 BT A cedar, 8 ins.,diam.,bears S.16½°W.,52 lks.dist., marked T43S R2E S17 BT A cedar,4 ins.diam.,bears N.50°W.,21 lks. dist., marked T43S R2E S8 BT
	Land, rolling, exposure to E. and SE.;drainage to NE.
	Soil, deep, loose sand, sandy and gravelly loams.
	Timber, very scattered cedars.
	Undergrowth, short sage, greasewood, yellow-top and grass.
	Good grazing land.

	N. 89°59' E., on random line, bet. secs. 9 and 16.
40.00	Set temp. ¼ sec. cor.
80.08	Intersect N. and S. line, 5 lks. S. of the cor. of secs. 9,10,15 and 16.
	Thence
	S. 89°57' W., on true line, bet. secs. 9 and 16.
	Over rolling land, facing to NE., gradually asc, through scattering cedar and few pinon.
40.04	On gentle N. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S9 S16 1917 from which A cedar, 12 ins.diam.,bears S.44°E., 205 lks.dist., marked ¼ S16 BT
	No trees within limits in sec. 9 and pits impracticable loose sand.
51.00	Draw, 40 ft. deep, course NE.

Subdivision of T.43 S.,R.2 E.

Chains	
77.00	Ridge,50ft.above draw, brs. NE. and SW.; desc.
80.08	The cor. of secs. 8,9,16 and 17.
	Land, rolling, gneral NE. exposure and drainage.
	Soil, loose sand, sandy and gravelly loams, with scattered rocky patches.
	Timber, very scattered cedar and pinon.
	Undergrowth, sage, greasewood, yellow-top and grass.
	Good grazing land.

	N.0°-03' W., bet. secs. 8 and 9.
	Over rolling and hilly land, sloping N & NW., through scattering cedar and pinon timber; gradual descent.
13.00	Rocky point, projects W.
40.00	On N. slope, 150 ft. below sec. cor.
	Set an iron post, 3 ft. long. 1 in.dia., 26 ins. in ground, for $\frac{1}{4}$ sec. cor., with brass cap marked
	$\frac{1}{4}$ S8 | S9 1917 from which
	A cedar,12 ins.diam.,bears S.3$\frac{1}{4}$°W., 320 lks.dist., marked $\frac{1}{4}$ S8 BT
	A cedar,10 ins.diam.,bears S.20$\frac{3}{4}$°E., 300 lks.dist., marked $\frac{1}{4}$ S9 BT
	Cor. situated at foot of hilly land and N. edge of timber, brs. NE. and SW.
	Thence over rolling land; desc. general NW. slope.
40.60	Small wash, 15 lks. wide, 2 ft. deep, course NW.
50.10	Main ravine, 50 ft. deep, course NE.; asc.
72.00	Old Navajo trail, brs. NE. and SW.
80.00	On nearly level bench land.
	Set an iron post, 3 ft. long, 2 ins.dia., 24 ins. in ground, for the cor. of secs. 4,5,8 and 9, with brass cap marked
	T43S | R2E S5 | S4 S8 | S9 1917

Subdivision of T.43 S.,R.2 E.

Chains	
	dig pits, 18x18x12 ins., in each sec., 5½ ft. dist.
	Land, rolling and hilly; exposure to N. and NW. on S. 50 chs. and to SE on ramainder; drainage to NE.
	Soil, loose sand, sandy and gravelly loams, with some rocky on S. 50 chs.
	Timber, very scattered cedar and pinon on S. ½ mile.
	Undergrowth, short sage, greasewood, oose and yellow-top.
	Fair grazing land.

	N. 89°57' E., on random line, bet. secs. 4 and 9.
40.00	Set temp. ¼ sec. cor.
80.02	Intersect N. and S. line, 5 lks. S. of cor. of secs. 3,4,9 and 10.
	Thence
	S. 89°55' W., on true line, bet. secs. 4 and 9.
	Over rolling land, facing NW., through short undergrowth; descending towards ravine.
31.90	Main ravine, 100 ft. below sec. cor., course NE.
	Note: A lone cedar tree, brs. S. of line about 110 lks. dist.
	Asc. 50 ft. to
40.01	On rolling bench.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ S4 / S9 / 1917
	dig pits, 18x18x12 ins.,E. and W. of cor.,3ft. dist.
80.02	The cor. of secs. 4,5,8 and 9.
	Land, rolling bench; drainage to NE.
	Soil, deep, loose sand; some sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose, brigham-tea & grass.
	Good grazing land. No timber.

	N. 0°09' W., on random line, bet. secs. 4 and 5.

Subdivision of T.43 S.,R.2 E.

Chains	
43.00	Set temp. ¼ sec. cor.
80.54	Intersect N. bdy. of tp., 5 lks. W. of the cor. of secs. 4,5,32 and 33, described in survey of T.42S.,R.2E. Gr. M.
	Thence
	S. 0°07' E., on true line, bet. secs. 4 and 5.
	Over rolling land, slight N. and NE. exposure; through short undergrowth.
37.60	Low raise and sandstone outcrop, brs. E. and W.
	Desc. gradual S. slope, 30 ft. to
40.54	On S. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 10 ins. in ground to bedrock, and 14 ins. in mound of stone, for ¼ sec. cor., with brass cap marked

¼

S5 | S4

1917

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

41.70	Shallow ravine, general course E.
80.54	The cor. of secs. 4,5,8 and 9.
	Land, rolling bench, having a slight general exposure and drainage to NE.
	Soil, loose sand, sandy and gravelly loams, with patches of sandstone outcrops in N. ½ mile.
	Undergrowth, short sage, yellow-top and greasewood.
	No timber. Fair grazing land.

	From the cor. of secs. 5,6,31 and 32 on S. bdy. of tp., heretofore described
	Thence
	N. 0°03' W., bet. secs. 31 and 32.
	Over rolling land, sloping to NW., through scattering cedar timber; desc. 35 ft. to
15.75	Ravine, course S.75°W.; thence along W. slope.

Chains	
33.25	Swale, drains S.80°W., and trail in same, brs. NE & SW
37.15	Small wash, 10 lks. wide, 1 ft. deep, course S.80°W.
40.00	On gentle S. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

¼
S31 | S32
1917

from which

A cedar,10 ins.diam.,bears S.22¾°E., 155 lks.dist., marked ¼ S32 BT
A cedar,12 ins.diam.,bears S.8¼°W., 199 lks.dist., marked ¼ S31 BT

	Gradually asc. S. slope, 75 ft. to
52.75	Base of broken sandstone ledges and rim, brs. N.60°E. and S.60°W.; asc. abruptly S. face, 100 ft.
58.00	Top of same, brs. W. for 5chs.,thence NW and NE.; thence over rolling top of higher bench land.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia.,24 ins. in ground, for cor. of sdcs. 29,30,31 and 32, with brass cap marked

T43S | R2E
S30 | S29
S31 | S32
1917

from which

A cedar limb,12 ins.diam.,bears N.68°E., 162 lks.dist., marked T43S R2E S29 BT
A cedar, 8 ins.diam.,bears S.4° E., 277 lks.dist., marked T43S R2E S32 BT
A cedar,16 ins.diam.,bears S.39°W., 46 lks.dist., marked T43S R2E S31 BT
A cedar limb,10 ins.diam.,bears N.17°W., 138 lks.dist., marked T43S R2E S30 BT

Land, rolling mountain top; exposure to NW on S. 33 chs. and to SW on ramainder; drainage SW.

Soil, saady and gravelly loams; rocky of sandstone formation along break.

Timber, scattered cedars on mile.

Undergrowth, sage, greasewood, oose and grass.

Good grazing land.

Subdivision of T.43 S.,R. 2 E.

Chains	
	East, on random line, bet. secs. 29 and 32.
40.00	Set temp. ¼ sec. cor.
80.00	Intersect N. and S. line, 2 lks. S. of the cor. of secs. 28,29,32 and 33.
	Thence
	S. 89°59' W., on true line, bet. secs. 29 and 32.
	Over rolling land, slight NW. slope, through scattering cedar and pinon timber.
18.10	Swale, drains N., and trail in same, brs N. and SW.
	Thence gradually asc. E. slope, 65 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked ¼ S29 / S32 1917 from which A cedar limb,8 ins.diam.,bears South, 157 lks.dist., marked ¼ S32 BT A cedar limb,7 ins.diam.,bears N.62¼°W., 83 lks.dist., marked ¼ S29 BT
42.40	Base of broken sandstone ledges and break, brs. NE & SW.
	Asc. abruptly E. face, 50 ft. to
46.35	Top of same, brs. NE. and SW., thence over rolling higher land, and over nearly flat divide bet. Paria river and Wahweap creek, general bearing NW. and SE.
73.75	Thence over slight W. slope.
80.00	The cor. of secs. 29,30,31 and 32.
	Land, rolling mountain top; drainage to N.
	Soil, deep,loose sandy and gravelly loams, except along break, which is rocky.
	Timber, scattering cedar and pinon.
	Undergrowth, sage, greasewood, yellow-top and oose.
	Good grazing land.

	West, on random line, bet. secs. 30 and 31.
40.00	Set temp. ¼ sec. cor.
81.90	Intersect W. bdy. of tp., 2 lks. S. of the cor. of secs.

Chains	
	25,30,31 and 36, as described by me in survey of T.43S., R. 1 E.
	Thence
	S. 89°59' E., on true line, bet. secs. 30 and 31.
	Over rolling top of bench land, slight slope to SE., through considerable timber of cedar and pinon.
41.90	On a gradual S. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, on bedrock, 5 ft. base, for ¼ sec. cor. with brass cap marked
	¼ S30 / S31 1917 from which
	A cedar, 6 ins.diam.,bears S.13°E., 152 lks. dist., marked ¼ S31 BT
	A cedar limb,6 ins.diam.,bears N.16½°E.,165 lks. dist.,marked ¼ S30 BT
65.00	Small draw, course SW., and top edge of break, brs. S.60°W. and S.; asc. W. slope, 55 ft. to
81.90	The cor. of secs. 29,30,31 and 32.
	Land, rolling top of bench; exposure to SE. on W. 65chs., and to SW. on remainder.
	Soil, loose, fine sandy loam, rocky and some red clay.
	Timber, considerable cedar and pinon on mile.
	Undergrowth, short sage, greasewood and yellow-top.
	Fair grazing land.

	N. 0°03' W., bet. secs. 29 and 30.
	Over rolling bench land, slight slope to SW., through scattering cedar and pinon timber.
13.00	Swale, near head, drains SW.
21.00	Top of slight ascent and flat divide bet. Paria river and Wahweap creek, brs. SE. and W.; thence over slight N. slope.
31.00	Leave all but few scattered cedars, brs. NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in.

Chains	
	ground, for ¼ sec. cor., with brass cap marked
	¼ / S30 | S29 / 1917 from which
	A cedar, 4 ins.diam.,bears S.51½°W., 397 lks.dist., marked ¼ S30 BT
	and dig pits, 18x18x12 ins., N. and S. of post,3 ft. dist.
	No trees within limits in sec. 29.
75.00	Enter heavier timber, brs. E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 19,20,29 and 30, with brass cap marked
	T43S | R2E / S19 | S20 / S30 | S29 / 1917 from which
	A cedar, 10 ins.diam.,bears N.54¾°E., 136 lks.dist., marked T43S R2E S20 BT
	A cedar, 12 ins.diam.,bears S.14½°E., 356 lks.dist., marked T43S R2E S29 BT
	A cedar, 8 ins.diam.,bears S54¼°W., 258 lks.dist., marked T43S R2E S30 BT
	A cedar,14 ins.diam.,bears N.49°W., 206 lks.dist., marked T43S R2E S19 BT
	Land, gently rolling bench land; slight exposure to NE. on N. 69 chs., and to SW. on remainder.
	Soil, fine, dry sandy and gravelly loams, on gravel sub-soil.
	Timber, scattering cedars and pinon.
	Undergrowth, short white sage, yellow-top, weeds and grass.
	Good grazing land.

	N. 89°59' E., on random line, bet. secs. 20 and 29.
40.00	Set temp. ¼ sec. cor.
79.98	Intersect the cor. of secs. 20,21,28 and 29.
	Thence.
	S. 89°59' W., on true line, bet. secs. 20 and 29.
	Over rolling land, through scattering cedar and pinon timber; gradually desc. NW. slope, 15 ft. to
9.70	Ravine, 10 ft. deep, course N.20°E.; thence gradually asc. general NE. slope.

Chains	
22.30	Ravine, 20 ft. deep, course NE.
39.99	On gentle NE. slope, 75 ft. above sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	S20 ¼ S29 1917 , from which
	A cedar, 8 ins.diam., bears N.0¾°W., 179 lks.dist., marked ¼ S20 BT
	A cedar, 8 ins.diam., bears S.64½°W., 245 lks.dist., marked ¼ S29 BT
48.30	Base of red sandstone break, brs. NE. and SW.; asc. abruptly E. face over ledges, 100 ft. to
55.85	Top of same, brs. NE. and SW.; thence gently asc. over higher land.
67.40	Gully, 35 ft. deep, course NE.
79.98	55 ft. above top of break at 55.85 chs.
	The cor. of secs. 19,20,29 and 30.
	Land, rolling; exposure and drainage to NE.
	Soil, loose, fine sandy and gravelly loams, with rocky snadstone formation along the break.
	Timber, scattered cedar and pinon.
	Undergrowth, short sage, greasewood, yellow-top & grass. Good grazing land.
	N. 89°59' W., on random line, bet. secs. 19 and 30.
40.00	Set temp. ¼ sec. cor.
81.85	Intersect W. bdy. of tp., 2 lks. N. of the cor. of secs. 19,24,25 and 30, described in survey of T.43 S.,R.1E.
	Thence
	East, on true line, bet. secs. 19 and 30.
	Over gently rolling top of bench land; slight slope to N., through short undergrowth.
41.85	On a gentle SE. slope.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

Subdivision of T.43 S., R. 2 E.

Chains	
	$\frac{1}{4}$ S19 / S30 1917 from which
	A cedar, 10 ins.diam.,bears S.49°E., 769 lks.dist., marked $\frac{1}{4}$ S30 BT /
	and dig pits, 18x18x12 ins., E. and W. of post,3ft. dist.
50.00	Enter scattering timber of cedar and pinon, brs. N & S.
81.85	The cor. of secs. 19,20,29 and 30.
	Land, gently rolling bench; slight exposure to N.
	Soil, loose, fine, sandy and gravelly loams.
	Undergrowth, short sage, yellow-top, shadscale and grass.
	Good grazing land. Timber,scattering cedar and pinon pine.

	N.0°03'W., bet. secs. 19 and 20.
	Over rolling bench land, gentle N. and NE. slope, through medium dense cedar and pinon timber.
14.40	Gulch, 40 ft. deep, course NE.
20.40	Stock trail, brs. NE. and SW.
29.60	Stock trail, brs. NE. and SW.
40.00	On gradual NE. slope, 90 ft. below sec. cor.,near edge of break.
	Set an iron post, 3 ft. long, 1 in. dia., 6 ins. in ground to bedrock, and 20 ins. in mound of stone, for $\frac{1}{4}$ sec. cor., with brass cap marked
	--- $\frac{1}{4}$ ---
	S19 | S20
	1917 from which
	A cedar,12 ins.diam.,bears S.45°E., 122 lks.dist., marked $\frac{1}{4}$ S20 BT /
	A cedar, 10ins.diam.,bears N.43½°W., 78 lks.dist., marked $\frac{1}{4}$ S19 BT
42.38	Shallow draw, course E.; top edge of break, brs. E. of line 1 ch. dist., break brs. about NE. and SE.
	Asc. broken SE. slope, 30 ft. to
66.00	Top of asccent; thence over nearly level bench.
80.00	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 17,18,19 and 20, with brass cap marked

Subdivision of T.43 S., R. 2 E.

Chains	
	T43S | R2E S18 | S17 S19 | S20 1917 from which
	A cedar,14 ins.diam.,bears N.36¾°E., 133 lks.dist., marked T43S R2E S17 BT
	A cedar,10 ins.diam.,bears S.42¾°E., 272 lks.dist., marked T43S R2E S20 BT
	A cedar, 6 ins.diam.,bears S.17°W., 196 lks.dist., marked T43S R2E S19 BT
	A cedar, 8 ins.diam.,bears N.49¾°W., 405 lks.dist., marked T43S R2E S18 BT
	Land, rolling, lying on top and near E. edge of bench; drainage to E.
	Soil, loose sandy and gravelly loams, some rocky and sandstone bedrock.
	Timber, medium dense cedar and pinon.
	Undergrowth, short sage, greasewood and yellow-top.
	Fair grazing land.

	N. 89°59' E., on random line, bet. secs. 17 and 20.
40.00	Set temp. ¼ sec. cor.
79.96	Intersect N. and S. line, 5 lks. S. of the cor. of secs. 16,17,20 and 21.
	Thence
	S. 89°57' W., on true line, bet. secs. 17 and 20.
	Over rolling land, facing SE., through scattering undergrowth.; gradually asc.
21.80	Wash, 15 lks. wide, 3 ft. deep, course SE.
31.50	Base of red sandstone break, brs. NE. and SW.; asc. abruptly over broken ledges; enter scattering timber, brs. NE. and SW.
39.98	On rocky SE. slope, 145 ft. above base of break.
	Set an iron post, 3 ft. long, 1 in. dia., 10 ins. in ground to bedrock, and 16 ins. in mound of stone, for ¼ sec. cor., with brass cap marked
	¼ S17 / S20
	1917 from which

Subdivision of T.43 S.,R. "2 E.

Chains	
	A cedar,12 ins.diam.,bears S.25½°E.,104 lks.dist., marked ¼ S20 BT
	A cedar,14 ins.diam.,bears N.05½°W., 175 lks.dist., marked ¼ S17 BT
49.00	Top of break and ledges, 70 ft. above ¼ cor., brs. NE. and SW.; thence gentle asc. 35 ft. over rolling top.
58.50	Top of ascent, brs. NE. and SW.;thence over nearly level bench.
79.96	The cor. of secs. 17,18,19 and 20.
	Land, rolling and broken; general SE. exposure and drainage to E.
	Soil, deep; loose sandy and gravelly loams; except along break, which is rocky, ledges and bedrock.
	Undergrowth, sage, greasewood, yellow-top, oose & grass.
	Fair grazing. Timber, scattering cedars.

	West, on random line, bet. secs. 18 and 19.
43.82	Set temp. ¼ sec. cor.; impracticable to set temp. cor. at 40.00 chs.
81.82	Intersect W. bdy. of tp., 12 lks. S. of the cor. of secs. 13,18,19 and 24, describedin survey of T.43S.,R.1 E.
	Thence
	S. 89°55' E., on true line, bet. secs. 18 and 19.
	Over rolling top of bench; gentle NE slope, through scattering cedar and pinon timber.
15.80	Bottom of rocky, narrow gulch, 150 ft. deep, course NE.
38.00	Top of W. edge of canyon, brs. NE. and S.20°W.; the true cor. point for ¼ sec. cor., will fall near bottom of canyon, cannot be set; therefore at this point.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone on bedrock, for the witness ¼ sec. cor. with brass cap marked
	¼ S18 / S19 WC 1917 from which

Chains	
	A cedar, 6 ins.diam., bears S.77°W., 176 lks.dist., marked WC ¼ S19 BT
	A cedar, 8 ins.diam., bears N.43½°E., 152 lks.dist., marked WC ¼ S18 BT
	Desc. abruptly over ledges or wall into gulch.
41.82	True point for ¼ sec. cor., falls on E. face of ledge near bottom of gulch, impossible to set here.
43.20	Bottom of gulch, 250 ft. deep, course N.10°E.; the gulch boxes about 8 to 10 chs. S. of line.
	Abrupt ascent to
50.40	Top of E. edge of gulch, brs/ N. and SW.; thence over gently rolling bench.
81.82	The cor. of secs. 17,18,19 and 20.
	Land, rolling, and broken by deep gulches; slight slope to NE. and N.; drainage to NE.
	Soil, loose, fine sandy and gravelly loams, and rocky of sandstone outcrops and ledges.
	Timber, scattering cedar and pinon.
	Undergrowth, short sage, greasewood, oose, yellow-top, and grass. Fair grazing land.

	N. 0°03' W., bet. secs. 17 and 18.
	Over gently rolling land, through scattering cedar and pinon timber, and short undergrowth.
	Gradually desc. N. slope.
22.00	Enter sandstone bedrock, brs. E. and W.
27.00	Edge of bench and top of sandstone break, brs. N.75°E. and S.75°W.; desc. abruptly N. slope over ledges and bedrock, 225 ft. to
37.70	Base of break and ledges, brs. same as top; thence gradual descent on N. slope.
40.00	True point for ¼ sec. cor. falls in small drain on bedrock, course nearly N., impracticable to prepetuate cor. at this point, therefore at a point 10 lks. E. of line and true point; the most suitable place to set cor.

Chains

Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for witness ¼ sec. cor., with brass cap marked

WC | S18 | ¼ | S17
1917

from which

A cedar, 12 ins.diam.,bears S.7½°E., 161 lks.dist., marked WC ¼ S17 BT ✓
A cedar, 10 ins.diam.,bears N.12½°W.,120 lks.dist., marked WC ¼ S18 BT ✓

From true cor. point, N.0°03' W.

51.00 Wash, 25 lks. wide, 3 ft. deep, in bottom of main ravine, 70 ft. below ¼ cor., and 370 ft. below sec cor., course NE.; gradual ascent over SE. slope.

64.00 Base of sandstone break, brs. NE. and SW.; thence abrupt ascent over broken ledges.

73.25 Draw, on E. slope, 20 ft. deep, course E.

80.00 On steep, ledgy SE. face of break,200ft. above main ravine.

Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in mound of stone, on bedrock, 5ft. base, for the cor. of secs. 7,8,17 and 18, with brass cap marked

T43S | R2E
S7 | S8
S18 | S17
1917

from which

A cedar, 20 lns.diam.,bears S.21½°E., 232 lks.dist., marked T43S R2E S17 BT ✓
South face of ledge, marked B C with cross, brs. N.23°E., 56 lks. dist. ✓
S-East face of ledge, marked B C, with cross, brs. N. 1° W., 22 lks. dist. ✓

No other trees within limits, and no [illegible] accessories built.

Land, rolling and mountainous; NE. and SE. exposures; drainage to NE.

Soil, loose sandy and gravelly loams, and rocky with ledges and bedrock.

Timber, scattering cedar and pinon.

Undergrowth, short sage, greasewood, ooze and yellow-top.

Fair grazing on greater portion of mile.

Chains	
	N. 89°57' E., on random line, bet. secs. 8 and 17.
40.00	Set temp. ¼ sec. cor.
79.92	Intersect N. and S. line, 5 lks. S. of the cor. of secs. 8,9,16 and 17.
	Thence
	S. 89°55' W., on true line, bet. secs. 8 and 17.
	Over rolling land, facing NW., through scattering cedar and pinon timber, and short undergrowth.
	Gradual descent.
30.00	Draw, 20 ft. deep, course N.E.
39.96	On rocky, broken NW. slope, 155 ft. below sec. cor.
	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in mound of stone, on bedrock, 5 ft. base, for ¼ sec. cor., with brass cap marked
	¼ S8 / S17 1917 from which
	A cedar, 20 ins.diam., bears N.20°E., 162 lks. dist., marked ¼ S8 BT
	A cedar, 6 ins.diam., bears S.30°W., 309 lks.dist., marked ¼ S17 BT
44.00	Main ravine, 25 ft. deep, and 50 ft. below ¼ cor., course NE. and base of descent; thence asc. gradual SE. slope.
74.00	Base of sandstone break, brs. NE. and SW.; asc. abruptly over broken ledges, 85 ft. to
79.92	250 ft. above main ravine.
	The cor. of secs. 7,8,17 and 18.
	Land, rolling and broken, with NW. and SE. exposures and drainage to NE.
	Soil, loose sand, sandy and gravelly loams, and rocky, sandstone outcrops and broken ledges.
	Timber, very scattered cedar and pinon on mile.
	Undergrowth, short sage, greasewood, shadscale & yellow-top.
	Fair grazing.

Subdivision of T.43 S., R. 2 E.

Chains	
	N. 89°55' W., on random line, bet. secs. 7 and 18.
40.00	Set temp. ¼ sec. cor.
81.82	Intersect W. bdy. of tp., 2 lks. S. of the cor. secs. 7,12,13 and 18, described in the survey of T.43S., R. 1 E.
	Thence
	S. 89°54' E., on true line, bet. secs. 7 and 18.
	Over broken top of bench, near N. rim, through considerable timber of cedar and pinon, and short undergrowth.
	Gently desc. land, facing nearly N.
41.62	True point for ¼ cor., will fall in wash; therefore at this point.
	Set an iron post, 3 ft. long, 1 in. dia., 6 ins. in ground to bedrock, and 20 ins. in mound of stone, 4 ft. base, for the witness ¼ sec. cor., with brass cap marked
	¼ S7 / S18 / 1917 WC
	from which
	A cedar, 8 ins.diam.,bears N.4½° W., 58 lks.dist., marked WC ¼ S7 BT
	A cedar,12 ins.diam.,bears S.56°W., 78 lks.dist., marked WC ¼ S18 BT
41.82	True point for the ¼ sec. cor., comes in shallow drain, course NE.; it is impossible to perpetuate cor at this point. No cor.set.
75.30	Edge of bench land and top of sandstone break, brs. NE. and SW.; desc. abruptly over ledges, 120 ft. to
81.82	The cor. of secs. 7,8,17 and 18.
	Land, slight broken top of bench on W. 75.30 chs. and E face of break on remainder; drainage and exposure to N.
	Soil, rocky, sandstone bedrock, loose sandy and gravelly loams.
	Timber, scattering cedar and pinon.
	Undergrowth, sage, greasewood, oose and yellow-top.

Chains	
	N. 0°03' W., bet. secs. 7 and 8.
	Asc. abruptly over SE. face of break, over broken sandstone ledges, through some scattered cedar and pinon timber, and short undergrowth.
4.00	Top of break, 90 ft. above sec. cor., brs. NE. and SW.
	Thence gradually desc. N. slope, point of bench, 70ft. to
14.00	Top of sandstone break and ledges, brs. N.60°E. and S.60°W.
	desc. abruptly N. face over ledge, 180 ft. to
20.00	Base of ledges and break, brs. same as top; thence desc. 55 ft. over foot hills to
25.00	Leave hills and all timber, brs. nearly E. and W.
	Thence over open, sandy lower bench land, sloping N.
40.00	On gentle N. slope,
	Set an iron post, 3 ft. long, 1 in dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

¼
S7 | S8
1917

	Deep, loose sand, pits impracticable, and no other accessories available.
55.50	Old Navajo trail, brs. about E. and W.
80.00	On a gentle N. slope, 50 ft. below ¼ sec. cor.
	Set an iron post, 3 ft. long, 2 ins. dia., 24 ins. in ground, for cor. of secs. 5,6,7 and 8, with brass cap marked

T43S | R2E
S6 | S5
S7 | S8
1917

	dig pits, 18x18x12 ins., in each sec. 5½ ft. dist. N. 55 chs. gently rolling bench land, slight slope to N.; remainder sandstone breaks and crossing E. point of higher bench; steep N. and SE. exposures.
	Soil, loose sand, some sandy loam, rocky ledges and bedrock; sandstone formation.

Chains	
	Timber, some scattering cedar and pinon on S. 25 chs.
	Undergrowth, short, sage, greasewood, oose and yellow-top.
	Good grazing land, on greater portion of mile.

	N. 89°55' E. on random line, bet. secs. 5 and 8.
40.00	Set temp. ¼ sec. cor.
79.86	Intersect N. and S. line, 12 lks. N. of the cor. of secs. 4,5,8 and 9.
	Thence,
	West, on true line, bet. secs. 5 and 8.
	Over gently rolling, open, sandy bench land, slight slope to NE., through short undergrowth.
39.93	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ S5 / S8 1917
	dig pits, 18x18x12 ins., E. and W. of post, 3 ft. dist.
79.86	The cor. of secs. 5,6,7 and 8.
	Land, gently rolling bench, slight exposure to NE.
	Soil, deep, loose sand, some sandy and fine gravelly loams.
	Undergrowth, short sage, greasewood, oose and yellow-top.
	No timber. Good grazing land.

	N. 89°54' W., on random line, bet. secs. 6 and 7.
40.00	Set temp. ¼ sec. cor.
81.76	Intersect W. bdy. of tp., 5 lks. N. of cor. of secs. 1,6,7 and 12, described in the survey of T.43S.,R.1E.
	Thence,
	S. 89°56' E., on true line, bet. secs. 6 and 7.
	Over gently rolling, open, sandy bench land, through short undergrowth; slight slope to N.
41.76	Set an iron post, 3 ft. long, 1 in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked

Chains	
	¼ S6 / S7 1917
	dig pits, 18x18x12 ins., E. and W. of post, 3ft. dist.
81.76	The cor. of secs. 5,6,7 and 8.
	Land, gentle rolling bench, slight slope to N.
	Soil, deep, loose sand, fine sandy and gravelly loams.
	Undergrowth, sage, greasewood, oose, and yellow-top.
	No timber. Good grazing land.

	N. 0°07' W., on random line, bet. secs. 5 and 6.
40.00	Set temp. ¼ sec. cor.
80.58	Intersect N. bdy. of tp., 21 lks. E. of the cor. of secs. 5,6,31 and 32, which is an iron post, 2 ins. dia., and described in survey of T.42S.,R.2 E. Group 49.
	Thence
	S. 0°16' E., on true line, bet. secs. 5 and 6.
	Over gently rolling, open bench land, having a slight slope to NW., through short undergrowth.
36.50	Top of slight raise, brs. E. and W.; thence over land, with a slight NE. slope.
40.58	On a gentle S. slope.
	Set an iron post, 3 ft. long, 1in. dia., 26 ins. in ground, for ¼ sec. cor., with brass cap marked
	¼ S6 | S5 1917
	dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.
44.78	Stock trail, brs. N.80°W. and S.80°E.
80.58	The cor. of secs. 5,6,7 and 8.
	Land, gently rolling bench, slight exposure to NW. and NE.
	Soil, deep, loose, fine sandy and gravelly loams.
	Undergrowth, short greasewood, white-sage, yellow-top and grass. Good grazing land. No timber.

Latitude, departure and closing errors of T.43S.,R.2E.

Lines Designated	True bearing	Distances	Latitude N	Latitude S	Departure E	Departure W
		chs.	chs.	chs.	chs.	chs.
S bdy of tp.	West	481.92				481.92
West bdy tp.	North	440.00	440.00			
" " "	N.1°20'E	40.43	40.42		.94	
N bdy of tp.						
"	S.89°57'E	80.26		.07	80.26	
"	East	400.00			400.00	
E bdy of tp	South	480.93		480.93		
Convergency					.55	
			480.42	481.00	481.75	481.92
				480.42		481.75
	Error in lat.			0.58		0.17
	Error in dep.					

General Description of T.43 S.,R. 2 E.

This township contains mainly rolling bench lands, with some mountainous and broken lands. It drains into Wahweap creek, with the exception of a small portion in the SW. corner, which drains SW. towards Paria river.

The soil throughout the township is generally a loose, dry, fine reddish sand, sandy and gravelly loams; along the breaks and rough portions, it is rocky of sandstone formation, with ledges and bedrock; to the NE. of Wahweap creek, and under the high breaks, the soil is mostly a loose blue clay, mixed with some sandrock and shale rock.

The SW. portion of tp. is covered with a scattering growth of scrub cedar and pinon timber. The entire tp. is covered with a short undergrowth of sagebrush, greasewood, brigham-tea, oose-root and bunch-grass, etc., and affords good grazing for stock.

Wahweap creek, dry the greater part of the time, excepting for small seeps, found along bottom in secs. 2,11 & 12, drains the NE. part of tp. The water contains considerable alkali and magnesia. The only other water found in this tp.,is near center of sec. 15 in bottom of rocky gulch, in water pockets, known as Jacob Tanks. Water can be found here the greater part of year, they are

supplied by rain and hold probably about 400 gals.
No indications of mineral were found in this tp.
There are no settlers nor any improvements in the tp.

Blank

Page

Water Locations in T.43 S.,R. 2 E.

The SE ¼ of SW ¼, and

S ½ of SE ¼ of sec. 2.

The E½ of E½ of NW¼ of sec. 11.

The W½ of Wp of SW¼ of sec. 12.

Andrew Nelson

U.S.Transitman.

Volume
#
R0435

Blank

Page

4—680

BOOK A-435

FIELD ASSISTANTS.

NAMES.	CAPACITY.
Frank Romney	Head- Chainman
Lacelle Bird	" "
Wayne Clark	Rear - Chainman
Richard Huntington	" "
Harold Evans	Cornerman
Wilfred Williams	"
James Stewart	Flagman
Frank H. Clark	Flagman and axman

The above assistants were employed in the survey of T.43 S., R. 2 E.

6—2764

CERTIFICATE OF UNITED STATES ~~SURVEYOR~~ TRANSITMEN.

We, Andrew Nelson & Elliot Bird, U. S. ~~Surveyor~~ Transitmen, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General for Utah, bearing date of the 1st day of Feb., 1916, We have well, faithfully, and truly in our own proper persons 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 South boundary and subdivision of T.43 S.,R.2 E.

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~~ our direction; and on dates as shown on date diagram on page 1 and 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.

Andrew Nelson

Elliot Bird

U. S. ~~Surveyor~~ Transitmen.

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, Oct. 30 1916

The foregoing field notes of the survey of the south boundary and subdivision of Township No. 43 South, Range No. 2 East, of the Salt Lake Base and Meridian, Utah,

executed by Andrew Nelson and Elliot Bird

under ~~his~~ special instructions dated February 1 1916, 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