Volume

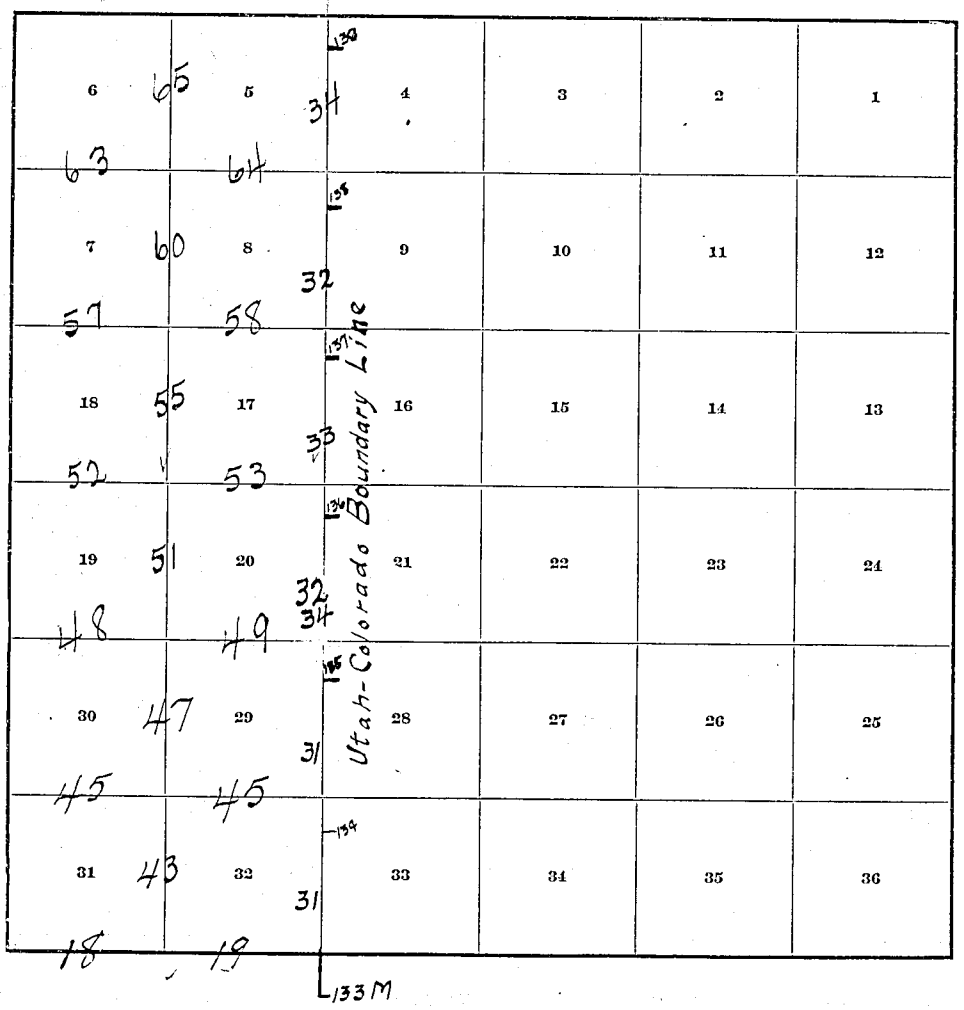
#

R0379

BOOK A-379

INDEX DIAGRAM.

Township 21 South, Range 26 East



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FIELD NOTES

OF THE SURVEY OF THE

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Of the ..... *Meridian,*

In the State of .....

EXECUTED BY

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

Survey commenced ....., *191*....

Survey completed ....., *191*....

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FIELD NOTES

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Survey completed ....., *191*....

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FIELD NOTES

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Survey commenced ....., *191*....

Survey completed ....., *191*....

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FIELD NOTES

OF THE SURVEY OF THE

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Of the ..... *Meridian,*

In the State of .....

EXECUTED BY

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In the capacity of U. S. Surveyor....., under instructions dated....., 191....,

issued by the United States Surveyor General to govern surveys included in

Group No....., which were approved by the Commissioner of the General Land

Office, ..., 191...., pursuant to authority contained in the Act of

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

Survey commenced ....., 191....

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FIELD NOTES

OF THE SURVEY OF THE

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Of the ..... *Meridian,*

In the State of .....

EXECUTED BY

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In the capacity of U. S. Surveyor...., under instructions dated....., 191...,

issued by the United States Surveyor General to govern surveys included in

Group No. ...., which were approved by the Commissioner of the General Land

Office, ..., 191...., pursuant to authority contained in the Act of

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

Survey commenced ....., *191....*

Survey completed ....., *191....*

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447 18	530 17	514 16	500 15	486 14	472 13
529	528	513	499	485	471
448 19	526 20	512 21	497 22	484 23	470 24
526	524	510	496	482	469
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FIELD NOTES

OF THE SURVEY OF THE

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In the State of .....

EXECUTED BY

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Survey commenced ....., *191*...

Survey completed ....., *191*...

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FILED
MAR 9 1911

Book "K."

BOOK A-379

FIELD NOTES

OF THE SURVEY OF THE

South Boundary of township 21 south, range 26 east

of the Salt Lake base and Meridian, Utah

AS SURVEYED BY

Howard W. Miller, United States ~~Deputy Surveyor~~ Transitman,

Under his ~~Contract~~ assignment group No. 11, Utah, dated August 6, 1910

Survey commenced September 22, 1910

Survey completed September 23, 1910

4—24

BOOK A-579

NAMES AND DUTIES OF ASSISTANTS.

Fred Wright, chainman

Karl Rothermund, chainman

Roscoe C. Hallett, moundman

Edward Jones, axman

Ben Egle, flagman

BOOK A-379

INDEX DIAGRAM.

Township 21 South, *Range* 26 East

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*Meanders Page*_____

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Fred Wright and Karl Rothermund do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the south boundary township 21 south range 26 east of the S.L.B.& M., Utah.

Fred Wright, Chainman.
Karl Rothermund, Chainman.

Subscribed and sworn to before me this 22nd day of September, 1900

SEAL

Howard W. Miller
U.S. Instrumentman

I ~~WE~~, Roscoe C. Hallett and

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given ~~us~~ me to the best of ~~our~~ my skill and ability, in the survey of the south boundary township 21 south, range 26 east of the S.L.B.& M., Utah.

Roscoe C. Hallett, Moundman.
, Moundman.

Subscribed and sworn to before me this 22 day of September, 1900

SEAL

Howard W. Miller
U.S. Instrumentman

I ~~WE~~, Edward Jones and

do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of corners and other duties, according to instructions given ~~us~~ me to the best of ~~our~~ my skill and ability, in the survey of the south boundary township 21 south, range 26 east of the S.L.B.& M., Utah.

Edward Jones, Axman.
, Axman.

Subscribed and sworn to before me this 22 day of September, 1900

SEAL

Howard W. Miller
U.S. Instrumentman

I, Ben Eagle, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the south boundary township 21 south range 26 east of the S.L.B.& M., Utah.

Ben Eagle, Flagman.

Subscribed and sworn to before me this 22 day of September, 1900

SEAL

Howard W. Miller
U.S. Instrumentman

6—151

Chains

South Boundary T. 21 S., R 26 E.

Survey commenced September 22, 1910, and executed with a W. & L. E. Gurley solar compass No. 1043. For description and test of instrument see book "A" of this survey. I begin at the corner of townships 21 & 22 south, ranges, 25 & 26 east, established by me September 22. Latitude 38° 56' 29" N. longitude 109° 07' 31" W.

At 4h. 23m. p.m. l.m.t. I set off 38° 56.5' N. on the lat arc: 0° 24.1' N. on the decl. arc. and determine with the solar a meridian and mark the point thereof on a stone firmly set in the ground, 5 chs. N. of the corner.

At 7h. 28.6m. 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 tack driven in a wooden peg, set firmly in the ground 5 chs. N. of the cor.

September 22, 1910

September 23: At 7h. a.m. l.m.t., I lay off the azimuth of Polaris, 1° 30' to the west, and mark the meridian thus determined, by cutting a small groove in the stone set September 22, which meridian falls 0.4 lis. east of the mark determined by the solar. At 7h. 23m. a.m. l.m.t., I set off 38° 56.5' N. on the lat. arc., 0° 9.6' N. on the decl. arc: and mark a point in the meridian determined with the solar, by a cross on the

South boundary T 21 S R 26 E.

chains

stone already set, 5 chs. N. of my station: this mark fall 0.3 lks. east of the meridian established by the Polaris observation
The solar apparatus by a.m. + p.m. observations, defines positions for meridians 0' 16" east and 0' 21" west 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 7h 45m a.m. is N 15° 20' W.; the angle thus determined gives the mag. decl. 15° 20' E.

From the tp cor. already described
Run
East, bet. secs. 6 + 31.
Over mountainous land thru scattering forest of cedar + juniper.
Descend from ridge over land sloping SE.
19.00 Enter heavy timber, bears N. + S.
28.00 Leave " " " "
Enter open sage brush land.
39.70 Point for 1/4 sec. cor. will fall in wash.
Set an iron post, 3 ft. long, 1 in. in dia., 26 lks in the ground for witness corner to the 1/4 sec. cor. marked on brass cap T 21 S R 26 E S 31 on N. half, S 6 on S. half with W C 1/4 to the east, dig pits 18 x 18 x 12 ins. E. + W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high N. of cor.
40.00 Point for 1/4 sec. cor. falls in wash, 15 lks. wide, course S.

South boundary T. 21 S., R. 26 E.

chains

Gradually ascend.
60.00 Enter cedar + pinon timber, bears NE. + SW.
80.00 Set an iron post, 3 ft. long, 3 in. in dia., 24 in. in the ground for cor. of secs. 5, 6, 31 & 32, marked on brass cap
T 21 S R 26 E on N. half
T 22 S on S. half,
S 31 in NW,
S 32 in NE.,
S 5 in SE. and
S 6 in SW. quadrant,
raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable.
Trees within limits in all secs. but are too poor to mark.
Land, mountainous
W 40 chs. SE slope of ridge. soil, rocky + rich sandy loam, sub-soil sandy loam. E 40 chs. W slope rocky + sandy loam soil, sub soil, sandy loam. Undergrowth sage brush + some oak. No grass. Timber, scruby cedar + pinon.

East, bet. secs. 5 + 32.
Over mountainous land, ascending thru forest of cedar + pinon.
7.00 Ridge, bears N. + S.
Descend abruptly, 100 ft.
17.50 Hollow, dry wash, drains N.
Ascend.
24.00 Spur, projects NW.
Descend
31.00 Hollow, dry wash, drains N.
Ascend.
39.00 Spur, projects N.
40.00 Set an iron, post, 3 ft. long, 1 in. in

South boundary T. 21 S., R 26 E.

Chains

dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 32 on N. half and S 5 on S. half, raise a mound of stone 2 ft. base 1 1/2 ft. high N. of cor.
Pits impracticable ✓
No suitable trees within limits.
50.00 Hollow and wash, drains NW.
Ascend 75 ft.
65.00 Spur, projects S.
Descend
71.00 Same hollow, drains SW.
84.54 Intersect the Utah-Colorado state boundary line 24.84 chs N. 2° 26' E of the 133rd mile cor. which is a cross on a ridge of rock, mkd and witnessed as described by the surveyor general.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for closing corner of tps 21 & 22 S., R 26 E. marked on brass cap
T 21 S R 26 E S 32 in NW. &
T 22 S S 5 in SW. quadrant
C C C in E. half and
U in W. half,
raise a mound of stone 2 ft. base 1 1/2 ft. high W. of cor.
Pits impracticable
No suitable trees available within limits. ✓
Land Mountainous.
W 50 chs. N slope rocky land. soil rocky; sub soil sandy & rocky.
E 35 chs. SW. slope soil rocky, sub-soil, rocky, some grass.
No undergrowth
Timber dense cedar & pinon. ✓

September 23, 1910

Claim South boundary T. 20 S., R. 26 E.

For general description see Book "M" of this survey.

Howard W. Miller
U.S. Instrumentman

Boundaries T.21 S., R.26 E.

Lines Designated	True Bearing	Dist.	Latitudes, N.	Latitudes, S.	Departures, E.	Departures, W.
		chs.	chs.	chs.	chs.	chs.
S.Bdy.	East	164.54	.....	.....	164.54	.....
Utah-Colo.Bdy.						
134th mile	N.2°26'E.	59.74	59.68	.....	2.54	.....
135th mile	N.0°33'E.	84.42	84.42	.....	.81	.....
136-7-8 miles	N.0°23'E.	243.27	243.27	.....	1.61	.....
139th mile	N.0°27'E.	82.26	82.26	.....	.63	.....
140th mile	N.0°17'E.	11.61	11.61	.....	.05	.....
N.Bdy.	West	170.39	.....	.....	.....	170.39
W.Bdy.	South	481.51	.....	481.51	.....	.....
Convergency						.19
	Totals		481.24	481.51	170.18	170.58
				481.24		170.18
	Errors			.27		.40

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Page

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller Instrumentman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the south boundary township 21 south range 26 east of the S.L.B.& M. Utah, showing the respective capacities in which they acted:

Fred Wright, *Chainman.*
Karl Rottermund, *Chainman.*
Roscoe C. Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eyle, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller Instrumentman, United States ~~Deputy Surveyor~~, in surveying all those parts or portions of ~~the~~ the south boundary township 21 south, range, 26 east of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah

Fred Wright, *Chainman.*
Karl Rottermund, *Chainman.*
Roscoe C Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eyle, *Flagman.*

Subscribed and sworn to before me this 23 day of September, 1910

SEAL

Howard W Miller
U.S. Instrumentman

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his, marked and witnessed at

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____, bearing date of the United States Surveyor General for _____ day of _____, 190 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____

For final oath of transitman see book "Y" T. 25 S., R. 26 E.

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

_____
United States Deputy Surveyor.

Subscribed by said _____, and sworn to before me this _____ day of _____, 190

SEAL

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25, 1930

The foregoing field notes of the survey of the South Boundary of Township No. 21 South, Range No. 26 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller under his ~~contract No.~~ special instructions A, dated August 6, 1910 ~~1909~~, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Thomas Bell
United States Surveyor General.

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

_____
United States Surveyor General.

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BOOK A-379

FILED

MAR 9 1911

Book "L"

M.S.B.

FIELD NOTES

OF THE SURVEY OF THE

retracement of the Utah - Colorado State boundary line 134 — 139th mile

Of the ..... Meridian,

AS SURVEYED BY

Howard W Miller, United States Deputy Surveyor, Transitman

Under his ~~Contract~~ assignment Group No. 4, Utah, dated August 6, 1910

Survey commenced September 2d, 1910

Survey completed September 30, 1910

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BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

Fred Wright, chainman

Karl Rothermund, chainman

Roscoe C. Hallett, moundman

Edward Jones, axman

Ben Egle, flagman

BOOK A-379

INDEX DIAGRAM.

Township 21 South, *Range* 26 East.

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4 3 3 3 1 1

Utah - Colorado boundary line

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PRELIMINARY OATHS OF ASSISTANTS.

We, Fred Wright and Karl Rothermund do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the ~~survey of~~ retracement & resurvey Utah - Colorado boundary line, 134th - 139th mile

Fred Wright, Chainman.
Karl Rothermund, Chainman.

Subscribed and sworn to before me this 24 day of September, 1910

Howard W. Miller
U. S. Transitman

SEAL

I, Roscoe C. Hallett and ..... do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the ~~survey of~~ retracement & re-survey of the Utah - Colorado boundary line 134th - 139th mile

Roscoe C. Hallett, Moundman.
....., Moundman.

Subscribed and sworn to before me this 24 day of September, 1910

Howard W. Miller
U. S. Transitman

SEAL

I, Edward Jones and ..... do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of corners and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey of retracement & re-survey of the Utah - Colorado boundary line 134 - 139th mile

Edward Jones, Axman.
....., Axman.

Subscribed and sworn to before me this 24 day of September, 1910

Howard W. Miller
U. S. Transitman

SEAL

I, Ben Eigh, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the ~~survey of~~ retracement & re-survey of the Utah - Colorado boundary line 134th - 139th mile

Ben Eigh, Flagman.

Subscribed and sworn to before me this 24 day of September, 1910

Howard W. Miller
U. S. Transitman

SEAL

Retracement and Resurvey of the Utah - Colorado bdy. 134 -

chains	
	Survey commenced September 24, 1910 and executed with a W. & L. E. Gurley solar compass No. 1043. For description and test of instrument see book "A" of this survey. I know the instrument to be in adjustment by observations made on Polaris September 22, 1910. I begin at the witness cor. to the 133rd. mile cor. heretofore described. At. 8h. 22m. a.m. l.m.t., I set off 38° 56½' on the lat. arc; 0°15' S. on decl. arc; and determine a mer. with the solar at the above named cor. Thence I run N. 0° 33' E., retracing the 134th. mile.
84.51	Fall 278 lks. W. of the 134th. mile cor., which is a sandstone 15 x 10 x 4 ins., marked and witnessed as described by the Surveyor General. The true bearing of this line is N. 2° 26' E., and the distance is 84.58 chs.
	N. 0° 33' E., retracing the 135th. mile. Over rolling land draining west, through scattering forest of cedar and pinon.
61.20	Wash, drains west.
72.90	Wagon road, bears E & W.
75.80	Coachi creek wash, 50 lks. wide, 5 ft. deep, drains W.
84.42	Intersect the 135th. mile cor., which is a sandstone, 20 x 10 x 5 ins. marked and witnessed

Retracement & Resurvey of the Utah - Colorado bdy, 134th - 139th m

Chains.	
	described by the Surveyor General. Land, rolling with westerly drain. Course = N. 0° 33' E. Distance 84.46 chs. Soil, sandy and rocky; 4th rate. Sub-soil, rocky; 4th. rate. Timber, scattering cedar & pinon.
	N. 0° 33' E., retracing the 136th. mile.
80.00	I find no trace of the 136th. mile cor., I therefore continue my line N. 0° 33' E., and at 243.27 chs. fall 70 lks. E. of the 138th. mile cor., which is a cedar post, 3 ins. square, 2 ft. high, and marked and witnessed as described by the Surveyor General. This falling answers to a correction of 23 1/3 lks. per mile or 0° 10'.
	Thence I run S. 0° 23' W., resurveying the 138th. mile.
	Over broken mesa top sloping W., through forest of cedar & pinon
6.16	Fall 4 lks. E. of a sandstone 19x21x5 ins., set in a mound of stone, marked U 139 M on W., and C on E. face. This stone is probably an old cor., meant for the 138th. mile which is reported to have been destroyed. I destroy all traces of the old cor.
17.20	Ridge and leave cedar and pinon, bears NE. and SW.
	Descend over open valley sloping SE.
78.35	Wash, 10 lks. wide, course SW.
	Thence over land sloping almost west.
81.09	By proportionate measurement. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 137th. mile cor., marked on

Retracement & Resurvey of the Utah-Colorado boundry, 134-1

Chains.	
	brass cap, U 137 M on W. and C. on E. half, dig pits, 36 x 36 x 12 ins. N. & S. of post, 4 ft. dist., raise a mound of earth, 5 ft. base, 2½ ft. high W. of cor. Land, rolling N. 78.35 chs. West slope rocky land on N. 17.20 chs., thence SE. slope. Undergrowth, sage brush, some grass. Soil, sandy loam, gravelly and rocky; sub-soil sandy loam and gravelly. S. 3.75 chs. West slope Good grass. Soil, rich sandy loam on sub-soil of sandy loam. Timber, cedar & pinon on N. 17.20 chs.
	S. 0°23' W, resurveying the 137th. mile over gently rolling land sloping W.
55.00	The West end of a few scattering cedar and pinon.
81.09	Set an iron, post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for the 136th. mile cor., marked on brass cap U 136 M on W. and C on E. half, dig pits, 36 x 36 x 12 ins. N. and S. of post, 4 ft. dist., raise a mound of earth, 5 ft. base, 2½ ft. high W. of cor. Land, gently rolling, with a westerly drain. Undergrowth, sage brush. Some good grass. Soil, rich, sandy loam and gravelly. sub-soil, sandy loam and gravelly. Timber, a few cedar & pinon. Sept 24: At this cor. I set off 0° 19' S. on the decl. arc; and at 11h. 52m. a. m. l. m. t., observe the sun on the meridian, the resulting lat. is 38° 59'

racement & Resurvey of the Utah-Colorado boundry, 134-139th. mi

Chains	
	S. 0° 23' W., resurveying the 136th. mile
	Over gently rolling land sloping W.
36.79	Wash, 10 lks. wide, 10 ft. deep,
	course SW.
52.95	Wash, 10 lks. wide, 10 ft. deep,
	course W.
	Begin ascent over land sloping N.
66.10	Enter scattering cedar & pinon.
77.00	Top low ridge, bears E. & W.
	Descend rocky south slope 75 ft. to
81.09	The 135th. mile cor. heretofore described.
	Land, gently rolling and mountainous.
	N. 77 chs. N. & W. slopes. Undergrowth
	sage brush. Good grass. Soil, rich
	sandy loam, sub-soil, sandy
	loam and gravelly. S. 4.10 chs. S.
	slope of rocky ridge. Soil, rocky on
	rocky sub-soil. Timber cedar & pinon
	on S. 15 chs.
	Mountainous land 15 chs.
	September 24, 1910
	September 30th.
	From the 138th. mile corner,
	heretofore described, I run
	N. 0° 14' E., retracing the 139th. mile.
82.26	Fall 24 lks. W. of the 139th. mile
	cor. heretofore described.
	The true bearing of this line is
	N. 0° 27' E., and the distance is
	82.26 chs.
	September 30, 1910.
	For general description see book
	"M" of this survey.
	Howard W. Miller
	U. S. Instrumentman.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller Transitman, United States ~~Deputy Surveyor,~~ to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the retracement & re-survey of the Utah-Colorado boundary line, 134th — 139th mile. showing the respective capacities in which they acted:

Fred Wright, Chainman.
Karl Rothermund, Chainman.
Roscoe C Hallett, Moundman.
, Moundman.
Edward Jones, Axman.
, Axman.
Ben Egle, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller Transitman, United States ~~Deputy Surveyor~~, in surveying all those parts or portions of the retracement & re-survey of the Utah Colorado State boundary line 134th — 139 mile of the meridian, of, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Fred Wright, Chainman.
Karl Rothermund, Chainman.
Roscoe C Hallett, Moundman.
, Moundman.
Edward Jones, Axman.
, Axman.
Ben Eigle, Flagman.

Subscribed and sworn to before me this 30 day of September, 1910

SEAL

Howard W Miller
U. S. Transitman

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BOOK A-379

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____ United States Surveyor General for _____, bearing date of the _____ day of _____, 190 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____

For final oath of transitman see book "Z"T. 24 S., R. 26 E.

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

_____

United States Deputy Surveyor.

Subscribed by said _____, and sworn to before me this _____ day of _____, 190

SEAL

_____

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25, 1913.

The foregoing field notes of the re survey of and retracement of the Utah-Colorado Boundary line 134 to 139th mile, inclusive,

executed by Howard W. Miller under his ~~contract No.~~ special instructions, dated August 6, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Thomas Hall

United States Surveyor General.

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

_____

United States Surveyor General.

4-131

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Page

4—679.

FILED
MAR 9 1911

BOOK A:379
Book M

M.S.B.

FIELD NOTES

OF THE SURVEY OF THE

Subdivisions of township 21 south, range 26 east

Of the Salt Lake Base and Meridian, Utah

AS SURVEYED BY

Howard W. Miller, United States ~~Deputy Surveyor~~ Transitman,
Under his ~~Contract~~ assignment Group No. 4, Utah, dated August 6, 1910

Survey commenced September 23, 1910

Survey completed September 30, 1910

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BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

Fred Wright, chainman
Karl Rothermund, chainman
Roscoe C. Hallett, moundman
Edward Jones, axman
Ben Eyle, flagman

BOOK A-379

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

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31 1	32	33	34	35	36

Meanders Page.....

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Fred Wright and Karl Rothermund do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the subdivisions of township 21 south, range 26 east S.L.B.& M., Utah.

Fred Wright, Chainman.
Karl Rothermund, Chainman.

Subscribed and sworn to before me this 23 day of September, 1910

SEAL

Howard W Miller
U. S. Instrumentman

~~WE~~ I, Roscoe C. Hallett and ..... do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given ~~us~~ me to the best of ~~our~~ my skill and ability, in the survey of the subdivisions of township 21 south, range 26 east S.L.B.& M., Utah.

Roscoe C Hallett, Moundman.
....., Moundman.

Subscribed and sworn to before me this 23 day of September, 1910

SEAL

Howard W Miller
U. S. Instrumentman

~~WE~~ I, Edward Jones and ..... do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of corners and other duties, according to instructions given ~~us~~ me to the best of ~~our~~ my skill and ability, in the survey of the subdivisions of township 21 south, range 26 east S.L.B.& M., Utah.

Edward Jones, Axman.
....., Axman.

Subscribed and sworn to before me this 23 day of September, 1910

SEAL

Howard W Miller
U. S. Transit man

I, Ben Eigh, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of the subdivisions of township 21 south, range 26 east S.L.B.& M., Utah.

Ben Eigh, Flagman.

Subscribed and sworn to before me this 23 day of September, 1910

SEAL

Howard W Miller
U. S. Instrumentman

6—151

Subdivisions T. 21 S., R. 26 E.

Chains	
	Survey commenced September 23, 1919, and executed with a W. & L. E. Gurley solar compass no. 1043. For description and test of instrument see book "A" of this survey. I know the instrument to be in adjustment, by observations made on Polaris September 22. I begin at the corner of secs. 5, 6, 31 & 32 on the S. bdy. of the tp. heretofore described. For solar observation see page 1, book "K" of this survey. Thence Drum N. 0° 01' E., bet. secs. 31 & 32. Over mountainous land, thru forest of cedar & pinon. Ascend 25 ft. to.
3.00	Low ridge, bears E. & W. Descend land facing N.
20.00	Leave timber, bears NW. & SE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 31 on W. half and S 32 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base 1½ ft. high W. of corner. September 23: at this 1/4 sec. cor. I set off 0° 39' N. on the decl arc; and at 11h 43m a. m. l. m. t observe the sun on the meridian the resulting latitude is 38° 57'
40.50	Wash, 30 lks. wide, course N. 60° W.
59.00	Wash, 25 lks. wide, 25 ft. deep, course S. 80° W. Enter cedar & pinon. Begin ascent of S. side ridge.
79.00	Top of ridge, 350 ft. above wash, bears

Subdivisions T 21 S R 26 East

chains

N 80° E + SW

Descend.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of earth + stone for cor. of secs. 29, 30, 31 + 32, marked on brass cap.

T 21 S S 30 in NW.,
R 26 E S 29 in NE.
S 32 in SE. and
S 31 in SW. quadrant

from which

A pinon, 18 ins. diam., bears N 15° E. 34 lks. dist. marked
T 21 S R 26 E S 29 BT

A cedar, 11 ins. diam., bears S. 26° E 66 lks. dist. marked
T 21 S R 26 E S 32 BT

A cedar, 14 ins. diam., bears S 1¼° W 112 lks. dist., marked
T 21 S R 26 E S 31 BT

A pinon, 10 ins. diam., bears N 73° W 114 lks. dist. marked
T 21 S R 26 E S 30 BT

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

Land, mountainous.

S 40.50 chs. N. slope. soil rocky sub-soil, rocky + sandy, no grass. N 39.50 chs. S slope. soil (some rich sandy loam on S 15 chs.). sandy loam + rocky: sub soil, rocky + sandy. Undergrowth sage brush. Timber, scrub cedar + pinon of no commercial value ✓

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

40.00 Set temporary 1/4 sec. cor.

80.00 Intersect West. bdy. of the tp at the cor. of secs. 25, 30, 31 + 36 heretofore described

	Thence True East, on true line bet. secs. 30 + 31. Over land sloping north near top of ridge, thru forest of cedar + pinon.
32.00	Ridge turns N 80° E. Begin to descend.
40.00	Set an iron post, 3 ft. long, 1 in in dia., 26 ins in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 30 on N. half and S. 31 on S. half, raise a mound of stone, 2 ft. base 1 1/2 ft. high N. of corner. Pits impracticable. Descend towards coach creek canyon.
46.70	Ravine, course S. Asc. 50 ft to.
53.00	Spur, projects S. Thence descend 125 ft. to
70.00	Coach creek, in canyon, 25 lks wide, course SW. Thence up steep ascent 100 ft.
80.00	The corner of secs. 29, 30, 31 + 32. Land mountainous W 32 chs. rocky N. slope of ridge no undergrowth, no grass. Soil rocky, sub soil, sandy + rocky. E 48 chs. SE. + NW. slopes into Coach creek canyon. soil, rocky, sub-soil, rocky. some willow undergrowth Timber, very poor cedar + pinon.
	East, on a true line bet. secs. 29 + 32. Over mountainous land, ascending along N. side of ridge.
5.75	Ridge, trans NE + S 85° W. descend
10.70	Hollow, 75 ft. deep, course SW. Ascend
24.00	Spur, 125 ft. above hollow, projects S 80° W.

Subdivisions T. 21 S., R 26 E.

chains

Descend over land facing nearly south.

32.50 Ravine, 50 ft. below, spur, course S 15°

36.50 Same ravine course NW.

Ascend

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 29 in N. half and S 32 in S. half, raise a mound of stone 2 ft. base 1 1/2 ft. high N. of cor. Pits impracticable.

Trees available in both secs, but all too poor to mark.

Ascend thru dense cedar + pinon.

87.34 Intersect the Utah - Colorado state boundary 20.25 chs. N 0° 33' E., of the 134th mile corner, which is a sandstone 15 x 10 x 4 ins., set in a mound of stone, marked as described by the surveyor general. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground and mound of stone for closing corner of secs. 29 + 32, marked on brass cap

T 21 S R 26 E S 29 in NW +
S 32 in SW., quadrant.
C C C in E. +
U in W. half.

from which

A cedar, 12 ins. diam., brs S 49 1/2° W. 71 lks. dist., marked
C C T 21 S R 26 E S 32 B T

A cedar, 15 ins. diam., brs N. 30 1/2° W. 28 lks. dist., marked
C C T 21 S R 26 E S 29 B T.

Land Mountainous with south + south west slope. soil, rocky, sub soil - rocky + sandy. Undergrowth

chains

sage brush, no grass.
Lighter, dense scrub cedar and pinon

September, 23-1910

September 24:
From the corner of secs. 29, 30, 31 & 32. heretofore described
Run
N 0°01' E., bet. secs. 29 & 30
Over land sloping NW. thru scrub cedar & pinon.
6.90 Wash, course NW.
19.00 Spur, projects west
27.90 Rail fence bears E & W.
Leave cedar & pinon.
32.00 Dry channel of coach creek, 50 lks. wide, course SW
33.50 Road bears. NE & SW.
Gradually ascend over land sloping almost east.
40.00 Set an iron post, 3 ft. long, 1 in. in dia, 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 30 on W. half & S 29 on E. half, from which
A Cedar, 13 ins. diam., bears N. 72° W., 198 lks. dist., marked
1/4 S 30 BT
A cedar 6 ins. diam., bears N 19 1/2° E., 224 lks. dist., marked
1/4 S 29 BT.
59.60 Wash, 20 lks. wide, 15 ft. deep, course SE. ascend.
80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 19, 20, 29 & 30, marked on brass cap
T 21 S S 19 in NW.,
R 26 E S 20 in NE.

Subdivisions T. 21 S. R. 26 E.

chains

S 29 in SE. and
S 30 in SW, quadrant,
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 corner
Land, rolling.
S 32. chs. NW slope, rocky soil, sub-
soil, sandy & rocky, Undergrowth
sage brush, Timber cedar & pinon
N 48 chs. gentle easterly slope, rich
sandy loam soil, sub-soil sandy
loam & some gravel. Undergrowth
sage brush. Very little grass.

September 24-1910

September 26: At 8h 22m a.m.
l.m.t., I set off 38° 58'.2 on the
lat. arc; 1° 02' S., on the decl. arc.
and determine a meridian with
the solar at the cor. of secs. 19, 20,
29 & 30 heretofore described
Thence Trun
West, on a random line bet. secs.
19 & 30
40.00 Set temporary ¼ sec. cor.
80.04 Intersect W. bdy. of the tp 5 lks. N.
of the cor. of secs. 19, 24, 25 & 30
heretofore described
Thence Trun
N 89° 58' E., on true line bet. secs. 19 & 30
Over rocky land sloping west,
thru forest of cedar & pinon.
21.00 Spur, projects NW.
Descend rocky land sloping NE.
40.02 Set an iron post, 3 ft. long. 1 in. in
dia., 26 ins. in the ground for
¼ sec. cor. marked on brass cap ¼
S 19 on N. half, and S 30 on S. half,
from which

Subdivisions T 21 S., R 26 E.

Chains	
	A pinon, 10 ins. diam., bears N 2° E 36 lks. dist., marked 1/4 S 19 BT
	A pinon 8 ins. diam, bears S 2 1/4° W. 78 lks. dist., marked 1/4 S 30 BT. ✓
48.00	Canyon, 200 ft. below spur, course NW ascend.
54.90	Ledge 50 ft. high, bears N. & S.
55.50	Spur, 130 ft. above canyon, projects N. Descend 75 ft.
58.15	Gulch, drains N. Ascend 100 ft
63.00	Ridge & divide bears N. & S. Desc. 180 ft.
75.00	Leave cedar & pinon, bears N & S. Gently descend
80.04	The cor. of secs. 19, 20, 29 & 30. Land, mountainous W 63 chs. NW. slope. soil, rocky, sub-soil, rocky & sandy. no undergrowth. E 17 chs. E. slope soil, rocky & sandy loam on E 5 chs. sub soil rocky & sandy. Some sage brush undergrowth Timber dense cedar & pinon on W 75 chs ✓
	September 24: East, on true line bet. secs. 20 & 29. Descend over rolling land sloping SE.
18.70	Wash, 50 lks. wide, 10 ft deep, & base of descent, course S. Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 20 on N. half and S 29

Subdivisions T. 21 S., R 26 E.

chains

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

72.00 Base of spur brass N. & S.
Enter few scattering cedar & pinon.

78.00 Top of spur, projects N.
Descend land facing NE.

88.10 Intersect Utah - Colorado State boundary line 15.83 chs. N 0° 23' E. of the 135th mile corner. heretofore described.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing corner of sect. 20 & 29, mkd on brass cap

T 21 S R 26 E S 20 in NW
S 29 in SW quadrant
U in W half &
C C C in E half.

dig pits 24 x 18 x 12 ins. crosswise on each line, N. & S. 3 ft., and W. of post 7 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. ✓
W 18.70 chs. SE slope open land. Undergrowth sage brush, good bunch grass, soil, rich sandy loam, sub soil sandy loam.
E 69.40 chs. West & NE. slopes. Undergrowth sage brush, some bunch grass. soil on W 59.30 chs rich sandy loam. sub soil sandy loam. E 16.10 chs. rocky & gravelly soil, sub soil sandy & rocky.
Timber some scrub cedar & pinon on E 16 chs ✓

September 24, 1910

September 26.

Subdivisions T 21 S R 26 E

Chains	
	From the cor. of secs 19, 20, 29 & 30 heretofore described, Trun N. 0° 01' E., bet. secs. 19 & 20
	Gradually ascend over land sloping SE.
10.00	Base of steep ascent & series of small ledges, ascend
15.75	Top of flat ridge, 275 ft. above sec. cor. bears E & W.
	Enter dense forest of cedar & pinon.
31.85	Ledge, 50 ft. high, bears NW & SE.
	Descend steep land facing N. from ridge
40.00	200 ft. below top
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 19 on W. half & S 20 on E. half: from which
	A pinon 7 ins. diam., bears S. 37° E. 21 lks. dist. marked 1/4 S 20 BT.
	A pinon, 6 ins. diam., bears S 46½° W 45 lks. dist. marked 1/4 S 19 BT. ✓
	September 26: at this 1/4 sec. cor. I set off 1° 06' 1/4 S. on the decl arc; and at 11h 52m a.m.l.m.t observe the sun on the mer. the resulting lat is 38° 58½'.
48.00	Wash, and head of canyon, course NW.
	Ascend over small ledges.
55.50	Spur, projects W.
	Descend.
66.00	Wash and canyon, course SW.
75.00	Ridge bears E. & W.
	Descend into canyon at head.
80.00	Set an iron post, 3 ft. long, 2 ins. in

Subdivisions T 21 S R 26 E.

Chains

dia., 24 ins in the ground for cor. of secs. 17, 18, 19 & 20, marked on brass cap
T 21 S S 18 in NW.,
R 26 E S 17 in NE.
S 20 in SE., and
S 19 in SW., quadrant.
raise a mound of stone, 2 ft. base 1½ ft. high W. of cor.
Pits impracticable
Trees within limits but all too poor to mark.
S 15 chs. S & SE. slopes. some undergrowth sage brush, soil sandy loam & rocky, sub-soil sandy. N 65 chs. 17 chs. flat top ridge. soil sandy & rocky. sub soil, rocky, bed rock close to surface N 48.5 chs. N. & W slopes. across head of canyons. soil rocky, sub soil, sandy & rocky. No grass Timber cedar & pinon ✓
September 26-1910

September 27: At 8h 21m a.m. l.m.t. I set off 38° 59' N. on the lat. arc. 1° 25.5' S. on the decl. arc. & determine a meridian with the solar at the cor. of secs. 17, 18, 19 & 20 heretofore described.
Thence Trav.
S 89° 58' W., on a random line bet. secs. 18 & 19.
40.00 Set temporary 1/4 sec. cor.
79.94 Intersect the W. Bdy. of the Tp. 5 lks. S. of the cor. of secs. 13, 18, 19 & 24 heretofore described
Thence Trav
East, on true line bet. secs. 18 & 19.
Over mountainous land

Subdivisions T 21 S., R 26 E.

chains	
	Ascend from canyon over rocky land facing W. thru cedar & pinon
8.85	Top of 50 ft ledge & W. edge of flat ridge bears N 45° W. & S E.
16.00	East edge of ridge and ledge 75 ft. high bears NW. & SE.
	Descend steep NE. slope over series of ledges 10 to 25 ft. high.
39.97	575 ft. below top.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 18 on N. half & S 19 on S. half, from which
	A pinon, 12 ins. diam., bears N. 75½° E. 27 lks. dist., marked 1/4 S 18 BT
	A pinon, 10 ins. diam., bears S. 35¼° W. 25 lks. dist., marked 1/4 S 19 BT
	Continue to descend
43.30	Marble canyon & wash, 50 lks. wide, course N 60° W.
	Ascend SW. slope of ridge
55.50	Top of ridge 275 ft. above canyon, bears NW & SE.
	Descend 200 ft to
65.70	Wash & canyon, 25 lks. wide, course NW.
	Ascend 275 ft. to
79.94	The cor. of secs. 17, 18, 19 & 20.
	Land mountainous and very broken with West & NE & NW. slopes. some undergrowth of chapparal. no grass. soil - rocky, 4th rates, sub-soil gravelly & rocky. Timber, scrub cedar & pinon.

September 26.
East, on true line bet. secs. 17 & 20

Subdivisions T. 21 S., R. 26 E.

Chains

Over mountainous land facing W., thru forest of cedar & pinon
16.50 Top of a rocky ridge, bears N & S. 275 ft. above sec. cor.
A high peak bears S. about 10 chs.
Descend.
29.20 Leave cedar & pinon bears, N. & S.
Gradually descend over open land.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S17 on N half and S20 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of corner
48.00 Wash, 50 lks. wide 10 ft. deep, course S 30° W. Base of descent.
Gradually ascend
88.58 Intersect Utah-Colorado state boundary line 14.52 chs. N. 0° 23' E. of the 136th mile corner, heretofore described.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 17 & 20, marked on brass cap
T 21 S R 26 E S17 in NW. and
S 20 in SW. quadrant
U in W. half &
CC C in E. half, dig pits 24 x 18 x 12 ins. crosswise on each line, N & S. 3 ft., and W. of post 7 ft. dist.; raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
W. 16.50 West slope rocky mountainous land, soil, rocky, sub soil rocky & sandy. E 72.08 chs east slope & nearly level land with a gradual SW. slope. soil, a rich sandy loam

chains

sub-soil, sandy loam with some gravell. Undergrowth chaparral
Timber cedar + pinon on west
29.20 chs
September 26-1910

September 27: At the cor. of secs. 17, 18, 19 + 20 heretofore described I set off 1° 29.7' S. on the decl. arc; and at 11h 52m a.m. l.m.t. observe the sun on the meridian; the resulting lat. is 38° 59' nearly.
N 0° 01' E. bet. secs. 17 + 18.
Over mountainous land thru forest of cedar + pinon.
Ascend 75 ft. from canyon.
3.95 Ridge, brans NW. and SE.
Descend 275 ft to
15.75 Wash + base of canyon, 30 lks wide; course west.
Thence ascend over series of small ledges facing S.
35.85 Ridge, 375 ft. above canyon, brans E. + W.
Descend.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground and (mound of stone) for 1/4 sec. cor. marked on brass cap 1/4 S 18 on W. half + S 17 on E. half; from which
A cedar 20 ins. diam., brans S. 74½° E. 28 lks. dist., marked 1/4 S 17 BT
A cedar 25 ins. diam., brans N 74½° W. 32 lks. dist., marked 1/4 S 18 BT.
44.00 Wash + bottom of canyon, 25 lks. wide, course N. 80° W.
Thence ascend over ledges +

Subdivisions T 21 S., R 26 E.

chains

steep land facing S.

67.50 Ridge, 440 ft. above canyon, brass N.80° W. & S.80° E.

Descend.

74.50 S. edge of canyon, brass N.80° W., & S 80° E.

79.00 Wash in canyon, course N 80° W

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for corner of secs. 7, 8, 17 & 18, marked on brass cap

T 21 S S 7 in NW.,
R 26 E S 8 in NE.,
S 17 in SE. &
S 18 in SW. quadrant.

from which

A pinon, 6 ins. diam., brass N.66½° E.
63 lks. dist., marked
T 21 S R 26 E S 8 BT

A pinon 14 ins. diam., brass S.68° E.
98 lks. dist., marked
T 21 S R 26 E S 17 BT

A pinon, 8 ins. diam., brass S.50½° W.
70 lks. dist., marked
T 21 S R 26 E S 18 BT

A pinon, 13 ins. diam., brass N.65¾° W.
13 lks. dist., marked
T 21 S R 26 E S 7 BT.

Land mountainous with westerly drain.

Soil, rocky 4th rate. Sub-soil, rocky & sandy; bed rock close to surface.

No undergrowth, no grass.

Timber, cedar & pinon.

September 27-1910

September 28: At 8h 21m a.m. l.m.t. I set off 39° 00' N. on the lat. arc: 1° 49' S. on the decl. arc; and determine a meridian with the

chains	
	solar at the cor. of secs. 7, 8, 17 & 18 heretofore described.
	Thence Trun
	West, on a random line bet. secs 7 & 18.
40.00	Set temporary 1/4 sec. cor.
79.88	Intersect the West boundary of the township at the true corner point of secs. 7, 12, 13 & 18 heretofore described
	Thence Trun
	East, on true line bet. secs. 7 & 18.
	Over mountainous land.
	Ascend over ledges bearing NW & SE
5.00	Top of ledges & Mesa, 175 ft. above base, bears N 85° W. & SE.
	Thence over mesa
17.05	East edge of mesa, bears N 30° W. & S 30° E.
	Descend steep NE. slope over series of ledges.
30.40	Wash & bottom of [illegible] Canyon, 50 lks. wide, 325 ft. below mesa, course NW.
	Ascend.
39.94	At base of sandstone ledges
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 7 on N. half and S 18 on S. half, from which
	A pinon, 8 ins. diam. bears North 7 lks. dist., marked 1/4 S 7 B.T.
	A pinon 24 ins. diam bears S 30 1/4° E. 38 lks. dist., marked 1/4 S 18 B. T.
	Thence up ledges
48.40	Top of ledges and E. side of canyon bears NW & SE.

Subdivisions T. 21 S. R 26 E.

chains

Thence over flat top ridge.
61.00 Begin to descend
68.00 Base of descent, brs NW. & S 80° E.
Leave cedar & pinon.
Thence up canyon bottom.
77.40 Wash in canyon, course N. 80 W.
79.88 The cor. of secs. 7, 8, 17 & 18.
Land, mountainous draining in a northwesterly direction with NE. & SW. slopes from high ridges into canyons.
Soil, rocky. 4th rate. sub-soil, sandy & rocky, bed rock close to surface
Undergrowth, chapparal, no grass
Timber cedar & pinon on 68.00 chs
September 28: At this sec. cor. I set off 1° 53' S. on the decl arc: and at 11h 51m a.m. l. m. t. observe the sun on the meridian, the resulting lat. is 39° 00'

East, on true line bet. secs. 8 & 17.
over mountainous land, thru forest of cedar & pinon.
Ascend from canyon over rocky land sloping SW.
3.70 Top of canyon & 25 ft. ledge, brs N 65 W & SE.
Continue gradual ascent over land sloping west.
36.00 Ridge and divide brs N. & S.
Descend.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 8 on N. half and S 17 on S half, from which
A pinon, 7 ins. diam., brs N. 3° W. 62 lks. dist., marked
1/4 S 8 BT

Subdivisions T. 21 S. R. 26 E.

chains

A cedar 10 ins. diam., bears S 21° W 27 lks. dist., marked 1/4 S 17 BT.

46.00 Leave cedar & pinon, bears N. & S.

Gradually descend.

88.00 Wash & base of descent, 10 lks. wide, course SW.

89.19 Intersect Utah - Colorado State boundary 13.65 chs. N 0° 23' E. of the 137th mile corner heretofore described.

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

T 21 S R 26 E S 8 on NW. &
S 17 in SW. quadrant
M. in W. half &
C C C in E. half,

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

Land Mountainous and gently rolling

W 36 chs. W. & SW. slopes rocky land sloping SW & W. no undergrowth, no grass. soil, rocky, sub-soil, sandy & rocky. E. 53 chs. very gradual SE. slope. Undergrowth sage brush, some bunch grass. Soil sandy loam & rocky. Rocky soil on W 12 chs. sub soil sandy loam. & rocky. Timber very dense cedar & pinon on 46 chs.

September 28, 1910

Subdivisions T. 21 S. R. 26 E.

chains

September 29 At. 7h. 51m. a.m. l.m. t., I set off 39° 00' N on the lat arc. 2° 12' S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 8, 17 + 18 heretofore described

Thence Trun

N. 0° 01' E., bet. secs. 7 + 8

Over mountainous land thru forest of cedar and pinon.

Asc. 45 ft to

1.00 Top of ledge + canyon bears NW. and SE.

Continue to ascend.

10.66 Ridge and south side of canyon wall bears N. 80° W. + S. 80° E.

Descend into canyon over ledges 50 to 75 ft. high, 325 ft.

29.00 Base of canyon and wash, 30 lks. wide, course N. 65° W.

Ascend from canyon over, exceptionally difficult land.

38.00 Base of series of ledges, bears NW. + SE.

40.00 Point for 1/4 sec. cor. on ledge where corner cannot be set, therefore at

40.50 On top of ledge and narrow ridge

Set an iron post, 3 ft. long, 1 in. in dia., 26 ins in the ground and mound of stone for witness cor. to the 1/4 sec. cor. marked on brass cap T 21 S R 26 E on N. half, S 8 on E. half, S 7 on W. half with W C 1/4 to the south, from which

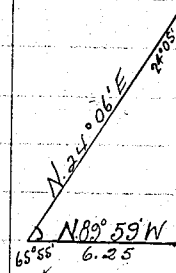
A pinon 12 ins. diam., bears N. 86 1/2° E. 52 lks. dist., marked

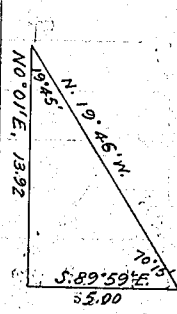
W C 1/4 S 8 B T

A pinon 8 ins. diam., bears N. 49 1/2° W.

Subdivisions T. 21 S., R 26 E.

chains	
	152 lks. dist., marked W C 1/4 S 7 B T.
44.70	S. side of canyon, bears NW. + SE. I am unable to chain across this canyon as it is impossible to descend the ledges. This canyon is about 400 ft. deep and has vertical walls of sandstone 100 to 200 ft. high. To determine the distance across I proceed as follows. Set a flag on line on N. side of canyon, then measure a base N 89° 59' W. 6.25 chs. to a point, from which flag bears N. 24° 06' E. therefore tan 65° 55' × base or 2.237 × 6.25 = 13.98 chs. which, added to 44.70 chs makes
58.68	To N. side of canyon bears NW. + SE.
	This canyon heads about 6 chs. East. Thence across narrow ridge
65.28	To S. side of impassible canyon bears N 60° W. + E. To determine the distance across I proceed as follows. Set a flag on line on N side of canyon, then measure a base S 89° 59' E., 5 chs. (Note. This is the largest base that I am able to secure and be able to see my flag on the north side of the canyon. From the east end of my base, the angle bet. the flag and point of triangulation measures 70° 15'; from the flag the base line subtends an angle of 19° 45'. therefore co-tang 19° 45' × base or 2.785 × 5 = 13.92 chs., which added to 65.28 makes
79.20	To north side of canyon and west point of mesa, bears NE + SE. The point for cor. of secs. 5, 6, 7 + 8





chains

will fall on ledge where corner cannot be set, I therefore perpetuate corner on solid ground as follows. Set an iron post, 3 ft. long, 2 ins. in dia., (unable to set cor in ground on account of solid sandstone bed-rock) 24 ins. in a mound of stone 4 ft. base, 2 ft. high. for witness corner to secs. 5, 6, 7 & 8, marked on brass cap as follows, top of page representing north

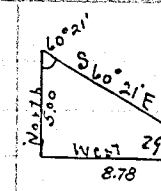
T 21 S R 26 E
S 6 W.C. S 5
S 7 | S 8

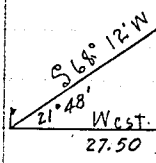
raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of corner.

80.00 Point for cor. of 5, 6, 7 and 8. No cor. set. No suitable trees within limits. Land mountainous with westerly drain and cut by numerous exceptionally deep canyons with N. & S. slopes. Soil, rocky and sandy; sub-soil - rocky & sandy, very poor. Some chapparal undergrowth. no grass. Timber, cedar & pinon.
September 29: At this sec. cor. I set off 2° 17' S. on the decl. arc; and at 11h 51m a. m. l. m. t. observe the sun on the meridian, the resulting lat. is 39° 01'

West, on a random line bet. secs. 6 & 7. from true corner point. Precipitous descent of 300 ft. down mesa and ledges, which I cannot chain. To determine the distance I set a flag on line at base of descent, west; and also erect a

chains	
	signal at the true corner point. From my flag at base of descent measure a base line. N. 5 chs. to a point, from which flag on top of cliffs bears S 60° 21' E., therefore tang 60° 21' × base, or 1.7567 × 5 chs =
8.78	To base of descent.
40.00	Set temp 1/4 sec. cor.
43.00	Base of high mesa & impassable ledges up which I cannot chain to determine distance, I set a flag on line on top of mesa, then measure a base north, 11 chs. to a point, from which flag bears S 68° 12' W., therefore, tang 68° 12' × base or 2.5 × 11 = 27.50 chs. which added to 43.00 chs. makes
70.50	To top of mesa.
79.90	Intersect W. bdy of the tp 18 lks. N. of the cor. of secs. 1, 6, 7 & 12 heretofore described
	Thence Trim
	N. 89° 52' E, on true line bet. secs. 6 & 7 over mountainous land thru forest of cedar & pinon.
	Descend across mesa.
9.40	To east edge of mesa & rock wall, 200 ft high, bears NW. & SE.
	Thence down mesa by triangulation
36.90	Base of mesa & wash, 50 lks wide, 425 ft. below top, course NW.
	Ascend.
39.95	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 6 on N. half and S 7 on S. half, raise a mound of stone, 2 ft. base 1 1/2 ft. high N. of cor.
	Pits impracticable.





Subdivisions of T. 21 S., R 26 E.

chains

50.00 Rocky spur, 125 ft. above wash, course NW.
Descend land facing NE.

71.56 Wash in canyon, 20 lks. wide, 200 ft. below spur, course NW.
Thence up west face of mesa by triangulation

79.90 The true cor. point of secs. 5, 6, 7 & 8.
Land mountainous draining N. & N.west, with steep slopes of ridges & mesas facing NE, SW & West. Soil rocky, very poor. Sub soil rocky, very little undergrowth. No grass
Timber, scrub cedar & pinon.
September 29-1910

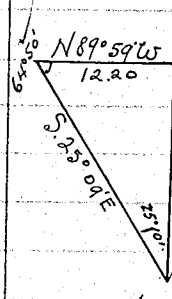
September, 30: At 8h 20m a.m. l. m. t. I set off 39° 01' + N. on the lat. arc. 2° 36' S. on the decl. arc: and determine a meridian with the solar at the true cor. point of secs. 5, 6, 7 & 8, heretofore described
Thence I run
East, bet. secs. 5 & 8.
Over mountainous land, thru forest of cedar & pinon.
Ascend west slope of mesa.

110.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 5 on N. half & S 8 on S. half, raise a mound of stone 2 ft. base 1 1/2 ft. high N. of cor.
Pits impracticable.
Trees within limits, but too poor to mark.

77.50 Track, at head of canyon, course NW.

89.78 Intersect Utah - Colorado State boundary line 12.56 chs. N. 0° 27' E. of the 138th mile corner heretofore described.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing corner of secs. 5 & 8 marked on brass cap
T 21 S R 26 E S. 5 on NW. &
S 8 on SW. quadrant
U in W. half &
C C C in E. half.
dig pits 24 x 18 x 12 ins. crosswise on each line, N. & S. 3 ft., and W. of post 7 ft. dist., raise a mound of earth 4 ft. base 2 ft. high W. of cor.
Land mountainous with west slope.
Soil rocky, 4th rate, sub-soil rocky & sandy. Undergrowth, some sage brush. No grass. Timber cedar & pinon.

Knowing that a closing corner will be necessary on the north boundary of the township, I run N. 0° 01' E, on true line bet. secs. 5 & 6, counting distances from true corner point.
The line north is inaccessible passing over a deep canyon with numerous ledges which cannot be chained. To determine the distance I set a flag on line N. 0° 01' E. on top of a rocky spur. I am unable to obtain a base at this point. I place my transit over my station on top of rock spur, and measure a base line



Subdivisions of T. 21 S. R. 26 E.

Chains

N 89° 59' W., 12.20 chs. to a point from which flag at the true cor. point of sec. 5, 6, 7 & 8 bears S. 25° 09' E., therefore tang. 64° 50' × base or 2.128 × 12.20 =

25.96 To top of rocky ridge, bears E. & W.

26.15 To side of an equally inaccessible canyon, across which I cannot chain. The 1/4 sec. cor. (at 40.00 chs.) will fall on wall of canyon where it will be impossible to set cor. I therefore

Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for witness corner to the 1/4 sec. cor. marked on brass cap T 21 S R 26 E on N. half, S 5 on E. half, S 6 on W. half, with W C 1/4 to the north, raise a mound of stone 2 ft. base 1 1/2 ft. high, W. of cor. Pits impracticable.

To determine the distance across canyon, I set a flag on line on N side, then measure a base S 89° 59' E., 14.10 chs. to a point from which, flag bears N 27° 28' W therefore, tan 62° 31' × base or 1.92 × 14.10 chs = 27.07 chs. which added to 26.15 chs. makes

53.22 To N. side of canyon and top of vertical sandstone ledge 300 ft high, bears E. & W.

Thence ascend across mesa.

59.30 To N. side of high mesa over Little Dolores river, bears E. & W.

Descend steep N. slope over series of small ledges. 325 ft.

61.12 Intersect the N. bdy. of the tp 10.01 chs. west of the witness cor. to standard corner of secs. 31 & 32

chains. Subdivisions of T. 21 S., R 26 E.

heretofore described
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground and mound of stone for closing cor. of secs. 5 & 6 on the N. bdy. of the tp. marked on brass cap
C C T 20 S R 26 E S 31 S 32 on N. half,
S 5 in SE. and
S 6 in SW. quadrant,
raise a mound of stone, 2 ft. base, 1½ ft. high S. of cor.
Pits impracticable
Land, mountainous.
S 69.20 chs. Land draining west, cut by two deep canyons with N & S. slopes. Soil rocky, very poor. sub-soil, rocky. N 22.10 chs. N. slope rocky soil, sub soil, rocky, Under-growth chapparal, no grass.
Timber, scrub cedar & pinon.
September 30; At this closing cor I set off 2° 39.8 S. on the decl arc; and at 11h 50m a.m. l.m.t observe the sun on the meridian, the resulting lat. is 39° 01½.
September 30, 1910

General Description

This township contains mountainous and gently rolling land and the soil ranges from rocks to a rich sandy loam. The soil of the gently rolling land in secs. 8, 17, 20 ~~29 and 30~~ is generally rich, sandy loam, capable of producing abundant crops with irrigation. The soil of the remaining part of the township is very rocky and all can be classed as 4th rate.

Cedar & pinon timber are found on the mountainous portions of the township, but is of no commercial value.

Coach Creek is the only water in the township, but, during the summer months is dry.

There are two settlers in the township one in sec. 29 & one in sec. 30 names unknown & improvements not seen from line

There are no indications of mineral in this tp.

Howard W. Miller
U.S. Instrumentman

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller, Instrumentman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the subdivisions of township 21 south range 26 east S.L.B.& M., Utah, showing the respective capacities in which they acted:

Fred Wright, Chainman.
Karl Rothermund, Chainman.
Roscoe C. Hallett, Moundman.
, Moundman.
Edward Jones, Axman.
, Axman.
Ben Eigle, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller, Instrumentman, United States ~~Deputy Surveyor~~, in surveying all those parts or portions of the subdivisions of township 21 south, range 26 east of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Fred Wright, Chainman.
Karl Rothermund, Chainman.
Roscoe C. Hallett, Moundman.
, Moundman.
Edward Jones, Axman.
, Axman.
Ben Eigle, Flagman.

Subscribed and sworn to before me this 30 day of September, 1900.

SEAL

Howard W. Miller
U.S. Instrumentman

6—161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____ United States Surveyor General for _____, bearing date of the _____ day of _____, 190 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____

For final oath of transitman see book "Z" T.24 S., R. 26 E.

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

_____
United States Deputy Surveyor.

Subscribed by said _____, and sworn to before me this _____ day of _____, 190

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25,1913.

The foregoing field notes of the survey of the subdivisional lines of Township No. 21 South, Range No. 26 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller under his ~~contract No.~~ special instructions, dated August 6, 1910, ~~190~~, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Thomas Dwell
United States Surveyor General.

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

_____
United States Surveyor General.

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4—679.

BOOK A-379

Book "P"

FILED
APR 1 1911

M.S.B.

FIELD NOTES

OF THE SURVEY ~~OF THE~~

retracement, subdivision and meanders of fractional

T 21 S R 24 E

Of the Salt Lake Base and Meridian,

Utah

AS SURVEYED BY

Howard Miller, United States ~~Deputy Surveyor,~~ Transitman

Under his ~~Contract~~ assignment Group No. 4, dated August 6, 1910

Survey commenced October 21, 1910

Survey completed October 23, 1910

6—161

BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

Fred Wright, chainman
Karl Rothermund, chainman
Roscoe Hallett, moundman
Edward Jones, axman
Ben Eagle, flagman

6—151

BOOK A-379

INDEX DIAGRAM.

Township 21 South, *Range* 24 East

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

*Meanders Page*s 7—8

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Fred Wright and Karl Rothermund do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of subdivision & meanders of frac. T. 21 S. R. 24 E. S.L.B.& M., Utah.

Fred Wright, Chainman.

Karl Rothermund, Chainman.

Subscribed and sworn to before me this 21 day of October, 1910

Howard W. Miller
Instrumentman G.L.O.

SEAL

~~WE~~ I, Roscoe Hallett ~~and~~ do solemnly swear that ~~we~~ I will well and truly perform the duties of ~~moundmen~~ moundman in the establishment of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey of subdivision and meanders of frac. T. 21 S. R. 24 E. S.L.B.& M., Utah.

Roscoe Hallett, Moundman.

, Moundman.

Subscribed and sworn to before me this 21 day of October, 1910

Howard W. Miller
Instrumentman G.L.O.

SEAL

~~WE~~ I, Edward Jones ~~and~~ do solemnly swear that ~~we~~ I will well and truly perform the duties of ~~axmen~~ axman in the establishment of corners and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the survey of subdivision & meanders of frac. T. 21 S. R. 24 E. S.L.B.& M., Utah.

Edward Jones, Axman.

, Axman.

Subscribed and sworn to before me this 21 day of October, 1910

Howard W. Miller
Instrumentman G.L.O.

SEAL

I, Ben Eagle, do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of subdivision & meanders of frac. T. 21 S. R. 24 E. S.L.B.& M., Utah.

Ben Eagle, Flagman.

Subscribed and sworn to before me this 21 day of October, 1910

Howard W. Miller
Instrumentman G.L.O.

SEAL

6—151

chains. Subdivision of T. 21 S., R. 24 E.

Survey commenced October 21, 1910 and executed with a W. & L. E. Gurley solar compass No. 10143. For description and test of instrument see book "A" of this survey.

I examine the adjustments of the compass and correct the level and colimation 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 my camp approximately 50 chs. north of the cor. of secs. 23, 24, 25 & 26; latitude 38° 58¾' N., longitude 109° 15' 16" W.; I set off 38° 58¾' N. on the lat. arc; 10° 37' S. on the decl. arc; and at 3h 45m p. m. l. m. t. determine with the solar a meridian and mark a point thereof, on a stone firmly set in the ground 5 chs. south of my station.

At 5h 35m p. m. l. m. t. I observe Polaris at eastern elongation and mark a point in the line thus determined on a peg driven in the ground 5 chs. South of my station.

October 21, 1910

October 22: At 7h a. m. I lay off the azimuth of Polaris 1d 20.6' to the east and find that my Polaris meridian agrees with the solar meridian determined

Subdivision of T. 21 S. R. 24 E.

Shaws

October 21.
At $7^h\ 45^m$ a.m. l.m.t. I set off 38° 58 3/4 on the lat arc 10° 51' S. on the decl arc; and determine a meridian with the solar. This meridian also agrees with the Polaris meridian and the solar meridian of October 21. I therefore conclude that the instrument is in perfect adjustment.
The magnetic bearing of the true meridian at 8^h a.m. is N 15° 35' W., which gives the magnetic decl. 15° 35' E.

I begin at the old 1/4 sec. cor. bet. secs. 24 & 25 which is a sandstone 12 x 8 x 5 ins above ground, with marks obliterated nearly. I destroy all traces of the old cor and re-establish it at the same point as follows.
Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 24 on N. half and S 25 on S half, raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
Pits impracticable
Spruce Drum
East, bet. secs. 24 & 25
Over mountainous land, gradually ascending.
6.50 Ridge and top of rock wall over Grand river bears N 60° W & S 20° E
Descend abruptly over ledges 50 to 75 ft. high
24.90 To left bank of Grand river
Set an iron post, 3 ft. long, 1 in. in

Subdivision of T. 21 S. R. 24 E.

Chains.

dia., 26 ins. in the ground for meander cor. of fract. secs. 24 & 25 marked on brass cap T 21 S R 24 E S 24 on N. half, MC S 25 on S. half., raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pit impracticable
Land mountainous with NE. and NW slopes.
Soil rocky; 4th rate
Sub soil rocky.
No timber

Retracement of subdivision of T. 21 S. R. 24 E.

chains.

From the 1/4 sec. cor. bet. secs. 24 & 25 heretofore described I run West, retracing between secs. 24 & 25

39.83 I fall 28 lks. N. of the cor. of secs. 23, 24, 25 & 26 which is a granite stone, 10 x 10 x 7 ins. above ground, firmly set, and marked and witnessed as described by the surveyor general.

The true bearing of this line is S 89° 36' W., and the distance is 39.83 chs.

N. 0° 01' W., retracing bet. secs. 23 & 24

40.01 I fall 3 lks W. of the 1/4 sec. cor. which is a sandstone 16 x 9 x 8 ins lying on the ground, marked dimly 1/4 on one face. I destroy all traces of the old cor and reestablish it at the same point as follows.

Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for 1/4 sec. cor. mkd on brass cap 1/4 S 23 on W. half and S 24 on E. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.

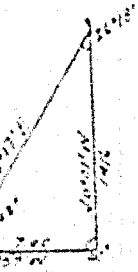
Pits impracticable course of this half mile is No°

From the 1/4 sec. cor I continue N 0° 01' W

16.05 To left bank of Imaud river.

Set temporary meander cor.

To determine the distance across river, I set a flag on line on top of ledges on right bank, then measure a base S 89° 59' W 700 chs. to a point from which flag bears N 26° 17' E., from the flag the west end of the base bears S 26° 17' W. therefore tan 63° 42'



Retracement of subdivisions of T.21 S. R.24 E.
Chains.

× base or 2.023 × 7.00 = 14.16 chs
which added to 16.05 makes
30.21 to right bank of Grand river &
Fall 13 lks E. of the witness cor
to the meander cor. of fracl. secs
23 & 24 which is a cross on solid
sandstone bedrock. mkd as describes
by the surveyor general.
From the witness cor I continue
north
9.94 Fall 4 lks E. of the cor of sec 13, 14, 23 & 24
which is a sandstone 12 × 9 × 7 ins
above ground firmly set and
marked and witnessed as describes
by the surveyor general
Course of this half mile is N 0° 15' W & dist. = 40.15 chs
I return to my temporary meander
cor of fracl secs 23 & 24 on the
left bank of Grande river and
set permanent meander cor for
fracl. secs 23 & 24, 7 lks. west of
temporary cor.
Set an iron post 3 ft. long, 1 in. in
dia., 26 ins in the ground for
meander cor. of fracl secs 23 &
24 marked on brass cap
T21 S R24 E on N half, M C S
24 on E. half and S 23 on W
half, from which
A cottonwood 24 ins diam, bears S 73¾° W
105 lks. dist. marked
T21 S R24 E S 23 M C B T
A cottonwood 14 ins. diam. bears
S 12¼° E 69 lks. dist. marked
T21 S R24 E S 24 M C B T
October 22 At this cor I set off
10° 56' S. on the decl. arc. and
at 11h 45m a. m. l. m. t. observe
the sun on the meridian, the
resulting lat is 38° 58¾'.

Retracement of subdivisions of T. 21 S. R. 24 E.

chains.

October 23 At 8h 15m am. I m t
I set off 38° 59' on the lat arc:
11° 13' S. on the decl arc; and
determine a meridian with
the solar at the cor. of secs. 13, 14
23 & 24 heretofore described
Thence Trun
East, retracing line bet secs 13 & 24
40.17 Tall 15 lks S of the 1/4 sec. cor
which is a sandstone 10 x 8 x 7
ins. above ground, firmly set and
marked and witnessed as
described by the surveyor general
The true bearing of this line is
N 89° 47' E and the distance is 40.17
Chs.
From the 1/4 cor. I continue
East
40.22 Tall 15 lks S of the cor of secs.
13, 18, 19 & 24 on the east boundary
of the tp. heretofore described
The true bearing of this line is
N 89° 47' E and the distance is
40.22 chs

Meanders of Grand river, T. 21 S., R. 24 E.

Meanders of the left bank of Grand river, down stream.
October 22: I commence at the meander cor. of fracl. secs. 25 and 30 on the east boundary of the tp. heretofore described.
Thence I run with meanders in sec. 25
Over rocky bank through willow undergrowth.
N. 88° 15' W., 6.30 chs.
N. 82° 05' W., 9.01 chs. to meander cor. fracl. secs. 24 & 25
Land, level.
Soil rocky; 4th rate.
No timber.
Undergrowth, willow.

Thence in sec. 24.
Over level bank through willow undergrowth.
N. 82° 15' W., 2.40 chs.,
N. 64° W., 22.60 chs.,
N. 38° W., 4.30 chs.,
N. 48° W., 13.40 chs.,
N. 35° W., 20.75 chs., Enter some cottonwood timber.
N. 23° W., 5.40 chs.
N. 39° 45' W., 4.40 chs.
N. 57° 02' W., 15.05 chs. to meander cor. of fracl. secs. 23 & 24.
Land, level.
Soil, rocky; 4th rate
Undergrowth, willow.
Timber, some cottonwood.

Thence in sec. 23.
Through dense willow undergrowth and scattering cottonwood timber

N. 64° W., 9.70 chs. Leave willow undergrowth and cottonwood timber, enter stony bank.
N. 50° 30' W., 20.00 chs.
N. 65° W., 16.51 chs. to meander cor. of fracl. secs. 14 & 23 which is a + on a sandstone ledge., marked and witnessed as described by the Surveyor General.

Land, level.
Soil, stony and rocky; 4th rate.
Timber, some cotton woods.
Undergrowth, willow
October 22, 1910

Meanders of right bank of Grand river up stream.
Oct. 23: 1910: From the witness cor to the meander cor. of fracl. secs. 23 & 24 heretofore described, I run with meanders in sec. 24.
Over broken ledges.
The river is south 6 chs.
S. 44° 15' E., 22.80 chs., to right bank of river.
S. 43° 30' E., 7.50 chs.,
S. 29° 30' E. 8.00 chs.
S. 37° E., 11.20 chs.,
S. 42° 30' E., 9.90 chs.,
S. 38° 30' E., 9.40 chs.,
S. 62° E., 10.90 chs.,
S. 68° 45' E 12.10 chs.
N. 84° 32' E 14.96 chs. to meander cor. of fracl. secs. 24 & 19 on the E. bdy of the tp.

Land, mountainous and level.
Soil rocky; 4th rate.
No timber
October 23, 1910

General Description.

The portion of this tp. surveyed under this assignment consists of mountainous land forming the canyon of the Grand river.

The soil is all rocky and unfit for any purpose. Some cottonwood timber is found along Grand river which flows thru sec 24 in a northwesterly direction.

There are no settlers in this tp.

There are no indications of mineral in this tp.

Howard W. Mullen
Instrumentman G.L.O.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller, United States ~~Deputy Surveyor~~ Instrumentman, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of subdivision & meanders of fracl T21 S R24 E S.L.B.& M., Utah, showing the respective capacities in which they acted:

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eigle, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller, United States ~~Deputy Surveyor~~ Instrumentman, in surveying all those parts or portions of the subdivisions, & meanders of fracl T21 S R24 E of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eigle, *Flagman.*

Subscribed and sworn to before me this 23 day of October, 1910

SEAL

Howard W Miller
Instrumentman G.L.O

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5-7335

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from _____ United States Surveyor General for _____, bearing date of the _____ day of _____, 190 , I have well, faithfully, and truly, in my own proper person, and in strict conformity with the instructions furnished by the United States Surveyor General for _____, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of _____

For final oath of transitman see book "Z1" - T. 24 S., R. 26 E.

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

_____
United States Deputy Surveyor.

Subscribed by said _____, and sworn to before me this _____ day of _____, 190

SEAL

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL.

Salt Lake City, Utah, June 25, 1913

The foregoing field notes of the survey of subdivisional and meander lines of Township No. 21 South, Range No. 24 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller under his special instructions, dated August 6, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Thomas Hull
United States Surveyor General.

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

_____
United States Surveyor General.

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Book "Q"

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BOOK A-379

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H.B.B.

FIELD NOTES

OF THE SURVEY OF THE

Subdivisions and the retracement of subdivisions of
T. 3 S., R. 22 E.

Of the Salt Lake Base Line and *Meridian,*

In the State of Utah

EXECUTED BY

Howard W. Milley

In the capacity of U. S. Transitman *Surveyor*, *under instructions dated* August 6, 1910, *issued by the United States Surveyor General to govern surveys included in Group No.* 4, *which were approved by the Commissioner of the General Land Office,* August 30, 1910, *pursuant to authority contained in the Act of Congress dated* ....., 191...

Survey commenced July 25, 1911

Survey completed August 4, 1911

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INDEX DIAGRAM.

Township 3 South, Range 22 East

6 29 27	5 19 26	4 35 17	3	2	1
7 23	8 15 38	9	10	11	12
18	17 37	16	15	14	13
19	20 13 22	21 11	22 34	23	24
30	29 10	28 5 8	27 37 4	26	25
31	32	33 2	34 31	35	36

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chains. Subdivisions of T. 3 S., R. 22 E.

Survey commenced July 25, 1911, and executed with a W. & L. E. Gurley solar compass, No. 1043. The horizontal limb is provided with one vernier and reads to single minutes of arc, which is also the least count of the verniers of the lat. and decl. arcs.

The instrument was examined, tested on the true mer. at Salt Lake City, found correct, and was approved by the Surveyor General for Utah, March 29, 1911.

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

At the cor of secs. 3, 4, 33 & 34 on the S. bdy. of T. 3 S., R. 22 E. in approximate lat 40° 30' 25" N., longitude 109° 27' 09" W., I set off 40° 30' 25" on the lat. arc; 19° 46' N. on the decl. arc; and at 5h. 6m. p.m. l.m.t. determine with the solar a meridian and mark a point thereof, on a stone firmly set in the ground, 5 chs. N. of the corner.

At 11h. 21m. p.m. by my watch, which carries correct 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 in the ground, 5

Subdivisions of T. 3 S., R. 22 E.

Chains

chs. N. of my station.
July 25, 1911

July 26: At 7h 30 m. a. m. l. m. t., I lay off the azimuth of Polaris 1° 32' to the West and find that my Polaris meridian agrees with the solar meridian of July 25, 1911. At 8h 06m a. m. l. m. t. I set off 40° 30' 25" N. on the lat. arc, 19° 37' N. on the decl. arc; and mark a point in the meridian determined with the solar, by a cross on the stone already set 5 chs. N. of my station; this mark falls 0.3 ins. east of the meridian established by the Polaris observation.
The solar apparatus by p. m. observation agrees with the stellar meridian and by a. m. observation defines a position about 0' 16" east of the meridian established by the Polaris observation, therefore, I conclude that the adjustments of the instrument are satisfactory.
The magnetic bearing of the true meridian at 8h 15m a. m., is N. 17° W., the angle thus determined gives the magnetic decl. 17° E.

From the cor. of secs. 3, 4, 33 & 34 on the S. bdy. of the tp. which is a limestone 16 x 9 x 8 ins above ground, firmly set; and marked and witnessed as described by the Surveyor General.
I run,
N. 0° 02' W., bet. secs. 33 & 34
Over mountainous land draining East, through scattering forest of

Subdivisions of T. 3 S., R. 22 E.

Chains	
	cedar & pinon. ascend.
3.00	Ridge, bears NW & SE.
	Descend.
7.70	Wood road, bears E and NW.
8.00	Wash in canyon, 25 lks. wide, 75 ft below ridge, course E.
	Ascend abruptly.
12.80	Spur, projects SE., descend
17.50	Wash - 15 lks. wide, course SE.
	ascend.
31.70	High ridge, 275 ft. above canyon wash, bears E. and W.
	Descend abruptly, 100 ft to
36.00	Wash - 10 lks. wide, course E.
	Ascend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 33 on W. half and S 34 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable.
42.00	Ridge, bears E. & W. descend.
45.80	Hollow, drains SW.
	Ascend.
61.40	Ridge, 175 ft. above draw, bears E. & W.
	Descend abruptly.
73.50	Draw, 200 ft. below ridge, course E.
	Thence over land sloping NE.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 27, 28, 33 & 34 marked on brass cap.
	T 3 S S 28 in NW.,
	R 22 E S 27 in NE.,
	S 34 in SE. and
	S 33 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable.

Subdivisions of T. 3 S., R. 22 E.

Chains.	
	Trees within limits in all secs. but too poor to mark. Land mountainous with an easterly drain. Soil, rocky, 4th rate sub-soil, decayed vegetation and rocky, 4th rate. Timber, scrub cedar and pinon. Undergrowth, chadscale. No indications of coal. Land mountainous and covered with timber, 8000 cl.
	East, on a random line bet. secs. 27 & 34
40.00	Set temporary 1/4 sec. cor.
81.26	Intersect N. & S. line 28 lks. S. of the cor. of secs. 26, 27, 34 & 35 which is a sandstone 14 x 10 x 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. & reestablish at the same point as follows; Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins in the ground for cor. of secs. 26, 27, 34 & 35, marked on brass cap.
	T 3 S S 27 in NW.,
	R 22 E S 26 in NE.,
	S 35 in SE. and
	S 34 in SW. quadrant
	raise a mound of stone, 2 ft. base, 1 1/2 ft. high. W. of cor.
	Pits impracticable.
	Thence I run.
	S. 89° 48' W., on true line bet. secs. 27 & 34
	Over mountainous land, through forest of scrub cedar.
	Ascend steep NE. slope of ridge.
5.00	Top of ascent and flat top ridge, 75 ft. above sec. cor., bears NW & SE.
12.00	Leave ridge, bears NE & SW
	Descend abruptly over NW. slope.
19.25	Draw, drains N., ascend
29.50	Low ridge, bears NW & SE.

Subdivisions of T. 3 S., R. 2 E.

Chains.	
	Descend 50 ft. to
32.80	Draw, drains SE. ascend 50 ft.
34.70	Spur, projects SE.
	Descend 75 ft. to
38.40	Draw, drains SE.
	Ascend 50 ft.
40.75	Spur, projects S.
	Descend 50 ft.
41.26	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 27 on N. half and S 34 on S. half; raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable.
41.50	Wash, 10 lks. wide, course S.
	Ascend 40 ft.
51.25	Spur, projects S.
	Descend 30 ft.
54.50	Wash, 50 lks. wide, 10 ft. deep; course SE.
	Thence ascend over rocky land sloping NE.
81.26	The cor. of secs. 27, 28, 33 & 34.
	Land mountainous, with an easterly drain. Soil rocky & clay; 4th rate, sub-soil, rocky 4th rate. Timber, scrub cedar. No indications of coal. Mountainous or timbered land 81.26 chs.
	July 26: At this sec. cor. I set off 19° 35' N. on the decl. arc; and at 12h 06m. p.m. l. m. t. obs. the sun on the mer.; the resulting lat is 40° 31'.
	July 27: For solar observation, see line between secs. 3 & 34, page 1 Book R: N. 0° 02' W., on random line, between secs. 27 & 28.
40.00	Set temporary 1/4 sec. cor.
80.70	Intersect E. & W. line, 45 lks. W. of

Chaine

the cor. of secs. 21, 22, 27 & 28
which is a sandstone 9 x 9 x 7 ins
above ground, firmly set, and
marked and witnessed as
described by the Surveyor General
I destroy all traces of the old cor.
and reestablish it at the same point
as follows:
Set an iron post, 3 ft long, 2 ins in
dia., 12 ins. in the ground for cor.
of secs. 21, 22, 27 & 28, marked
on brass cap
T 3 S S 22 in NW.,
R. 22 E S 22 in NE.,
S 27 in S.E. and
S 28 in SW. quadrant
from which
A cedar, 6 ins. diam., bears N. 28° 30' E.,
36 lks. dist., mkd.
T 3 S R 22 E S 22 BT.
A cedar, 10 ins. diam., bears S. 21½° E
53 lks. dist., mkd
T 3 S R 22 E S 27 BT.
A cedar, 8 ins. diam., bears S 43° W.
81 lks. dist., mkd
T 3 S R 22 E S 28 BT.
A cedar, 8 ins. diam., bears N 55½° W.
18 lks. dist., mkd.
T. 3 S R 22 E S 21 BT.
Thence I run
S. 0° 17' W., on true line bet. secs. 27 & 28.
Over mountainous land through
forest of scrub cedar and juniper
Descend.
0.80 Wash, 20 lks. wide, course NE.
Thence ascend N. face of ridge.
22.40 High ridge, 225 ft. above wash,
bears E. & W.
Descend 70 ft. to
32.20 Draw, drains SW.

Subdivisions of T. 3 S., R. 22 E.

Chains	
	Ascend 25 ft
54.70	Spur - projects W.
	Descend 25 ft.
110.70	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 28 on W. half, and S 27 on E. half; raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable
43.70	Draw. drains SW.
	Ascend 20 ft
111.60	Spur, projects SW.
	Descend 50 ft.
50.00	Draw. drains SW. ascend 25 ft
51.20	Spur, projects W. Descend 25 ft
55.60	Wash, 15 lks. wide, 8 ft. deep, course SE.
	Ascend abruptly
61.70	Spur, 100 ft. above wash, projects SE.
	Descend abruptly 75 ft. to
67.50	Wash, course E.
	Ascend 100 ft to
72.70	Ridge; brass E. and W.
	Descend 80 ft. to
79.10	Wash, 10 chs wide, course E.
	Asc. abruptly 50 ft to
80.70	The cor. of secs. 27, 28, 33 & 34.

Land mountainous draining NE on N 24 chs. and SW and SE on S 56.70 chs. Soil rocky 4th rate, sub-soil, rocky 4th rate, timber scrub cedar & pinon. No indications of coal. Mountainous or timbered land 80.70 chs.

July 27: At this sec. cor. I set off 19° 21 1/2' N. on the decl. arc; and at 12 h. 06 m. p. m. l. m. t. observe the sun on the mer.; the resulting lat is 40° 31' which is the proper lat.

Subdivisions of T. 3 S., R. 22 E.

Chains

July 28: For solar observation see line between secs 26 and 27 page 32
The cor of secs. 28, 29, 32 & 33 is a limestone 10 x 10 x 14 ins. above ground firmly set and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor., and reestablish it at the same point as follows,
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor of secs 28, 29, 32 & 33 marked on brass cap.

T. 3 S S 29 in NW.,
R 22 E S 28 in NE.,
S 33 in SE. and
S 32 in SW quadrant,

from which
A cedar, 5 ins. diam., bears N 57 1/4 E., 27 lks. distant marked
T 3 S R 22 E S 28 BT.
A cedar, 9 ins. diam., bears S 36° E., 32 lks. dist. marked
T. 3 S R 22 E. S 33 BT.
A cedar, 14 ins. diam., bears S 62 1/2° W 52 lks. distant marked
T 3 S R 22 E S 32 BT
A cedar, 10 ins. diam, bears N 71 1/2° W 63 lks distant, marked
T 3 S R 22 E S 29 BT.
Thence I run
East, on random line, bet. secs. 28 & 33
110.00 Set temporary 1/4 sec. cor.
80.08 Intersect N. and S. line 7 lks. S of the cor. of secs. 27, 28, 33 & 34 heretofore described
Thence I run
S 89° 57' W., on true line bet. secs. 28 & 33
Over mountainous land, thru forest of scrub cedar & pinon

Subdivisions of T. 3 S., R. 22 E.

Chains	
	Ascend eastern slope of high ridge.
11.00	Wood road, bears N. & S.
33.50	High ridge, 360 ft. above sec. cor., bears NW & SE.
	Thence descend over land draining SW across series of small spurs and draws.
40.04	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 28 on N half and S 33 on S. half; raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
43.50	Draw, drains S.
	Ascend 25 ft.
46.50	Spur, projects SW.
	Descend 75 ft.
54.30	Draw, drains SW.
	Ascend 25 ft.
56.10	Spur, projects SW.
	Descend 75 ft.
70.60	Draw, drains SW.
	Ascend 20 ft.
71.30	Spur, projects SW.
	Descend 85 ft.
71.90	Hollow, 400 ft below high ridge, course S.
	Ascend E face of bench.
73.00	Top of bench, bears N. & S.
	Thence across bench.
80.08	The cor. of secs. 28, 29, 32 & 33.
	Land mountainous. E. 33.50 chs East slope of high ridge. W. 46.50 western slope of high ridge. soil rocky with sub-soil of decayed vegetation and rocky 4th rate. Timber, scrub cedar & juniper. No indications of coal. Mountainous or timbered land 80.08 ch.
	July 28: At this sec. cor. I set

Subdivisions of T. 3 S., R. 22 E.

Chains	
	off 19° 08' N. on the decl. arc; and at 12h 06m a.m. l.m.t. observe the sun on the mer; the resulting lat is 40° 31'
	N. 0° 03' W., bet. secs. 28 & 29. Gradually ascend over mountainous land through forest of scrub cedar & juniper.
20.00	Top of ascent, brass E. & W. Descend abruptly 150 ft.
23.20	Wood road, brass NE. and SW
26.10	Wash, 10 lks. wide, course S. 65° W. Ascend abruptly
34.00	Ridge spur, 100 ft. above wash, brass E. and W. Gradually descend.
37.00	Begin steep descent over land facing N.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lns., in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 29 on W. half and S 28 on E. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable
	July 28, 1911.
	July 29: At 7h 06m a.m. l.m.t. I set off 40° 32' N. on the lat arc; 18° 58' N. on the decl. arc; and determine a meridian with the solar at the 1/4 sec. cor. bet. secs. 28 & 29 heretofore described. Thence I run N. 0° 03' W.
43.50	Wash, 15 lks. wide, 150 ft. below ridge, course S. 80° W. Ascend steep land facing SW
60.00	Ridge, 350 ft. above wash, brass NW & E.

Subdivisions of T. 3 S., R. 22 E.

Chains	
	Thence descend over land facing NE.
69.70	Draw, 200 ft. below ridge, drains NW
	Leave ascend, cedar & pinon, bears NE & SW.
70.70	Spur, projects W.
	Descend 25 ft.
71.90	Wash, 10 lks. wide, 250 ft. below ridge, course S 85° W.
	Thence up steep ascent over land facing S.
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 & 29, marked on brass cap.
	T 3 S S 20 in NW.,
	R 22 E S 21 in NE.,
	S 28 in SE. and
	S 29 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable
	Land Mountainous draining W. soil rocky & clay, sub soil clay 4th rates. Timber scrub cedar & pinon on 69.70 chs.
	No indications of coal.
	Mountainous or timbered land 80.00 chs.
	N. 89° 57' E. on random line bet. secs. 21 & 28.
40.00	Set temporary ¼ sec. cor.
80.40	Intersect N. & S. line 71 lks. S. 0° 17' W. of the cor. of secs. 21, 22, 27 & 28 heretofore described. Point for closing cor to secs. 21 & 28 falls in wash where corner cannot be perpetuated.
	No corner set.
	Thence I run
	S. 89° 57' W., on true line between secs 21 & 28, counting distances from true cor. point.
	Over mountainous land through forest of cedar & pinon.

Subdivisions of T. 3 S. R. 22 E.

Chains
0.44 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins in the ground for witness corner to closing corner of secs 21 & 28, marked on brass cap.
T 3 S S 21 S 28 on W half,
R 22 E S 22 S 27 on E half,
with W C C C, raise a mound of stone, 2 ft. base 1½ ft. high W of cor.
Pits impracticable.
Trees within limits in both secs but too poor to mark.
I destroy all marks on old sec. cor. pertaining to secs 21 & 28 and deface the bearing trees.
0.75 Wash, course SE.
Begin step ascent of eastern face of high ridge.
40.20 300 ft. above wash,
Set an iron post, 3 ft long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 21 on N. half and S 28 on S. half; from which
A cedar, 9 ins. diam., bears N. 7° E., 35 lks. dist., marked
1/4 S 21 BT.
A cedar, 10 ins. diam., bears S 1° E., 32 lks. dist., marked
1/4 S 28 BT.
July 29: At this 1/4 sec. cor. I set off 18° 55' N. on the decl. arc, and at 12h 06m p.m. l.m.t. observe the sun on the meridian, the resulting lat. is 40° 32' which is the proper latitude.
44.70 Spur, projects N.
Descend 50 ft.
47.70 Draw, drains NE.

Chains	
	Ascend.
59.60	High ridge, 410 ft. above closing corner, bears N. & S.
	Descend abruptly over west face of ridge.
72.60	Deep hollow, 450 ft. below ridge, course S. 60° W.
	Leave cedar, bears NE. & SW.
	Thence ascend over land sloping SE. across series of sm. spurs and draws putting S.
74.00	Spur, projects S.
	Descend 25 ft.
76.30	Draw, drains, S.
	Ascend 30 ft.
79.40	Spur, projects, S.
	Descend 110 ft.
80.20	Draw, course S.
	Ascend 50 ft.
80.40	The cor. of secs. 20, 21, 28 & 29.
	Land mountainous, East 60 chs. Eastern slope high ridge land draining East, West 20 chs. West slope ridge land draining SW. Soil rocky & clay, with sub soil clays & rocks, 4th rate. Timber scrub cedar on E 72 chs. No indications of coal. Mountainous or timbered land 80.40 chs.
	July 31: At 7h. 06m. a. m. l. m. t. I set off 110° 32' on the lat. arc; 18° 29' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 20, 21, 28 & 29 heretofore described.
	Thence I run,
	N. 0° 03' W., on a random line bet secs. 20 & 21.
40.00	Set temporary 1/4 sec. cor.
80.54	Intersect E. and W. line 30 lks. W. of the cor. of secs. 16, 17, 20 & 21 which

Subdivisions of T. 3 S. R. 22 E.

chains

is a sandstone 13 x 11 x 9 ins., above ground, firmly set, marked and witnessed as described by the Surveyor General.
I renew marks on old corner and rebuild accessories according to old notes.
Thence I run.
S 0° 10' W., on true line bet. secs. 20 & 21
Over mountainous land draining W., through forest of scrub cedar.
Descend abruptly.
2.00 Wash, 8 lks. wide, 75 ft. below sec. cor., course W.
Ascend 100 ft. to
11.70 Spur, projects N. 60° W.,
Descend.
15.90 Wash, 8 lks. wide, 5 ft. deep, course W.
Ascend.
17.50 Spur, projects W.
Descend
18.70 Draw, drains W.
Ascend.
19.70 Spur, projects W.
Descend 100 ft. to
21.20 Canyon wash, 20 lks. wide, 10 ft. deep, course W. 6 chs., N. 7 chs. thence N. 80° W.
Ascend.
23.50 Spur, projects W.
Descend
24.60 Wash, course W.
Ascend.
27.60 Spur, projects W.
Descend.
28.80 Draw, drains W.
Begin steep ascent of N. face ridge
40.54 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground and mound of stone for 1/4 sec. cor., marked on brass cap, 1/4 S 20 on W. half and S. 21 on E half; raise a

Subdivisions of T. 3 S. R. 22 E.

Chains	
	Mound of stone, 2 ft. base, 1½ ft. high W. of corner.
	Pits impracticable.
	Trees within limits in all secs, but are too poor to mark.
48.00	High ridge, 400 ft. above canyon wash, bears E. & W.
	Gradually descend.
51.80	Draw, drains SW.
	Ascend.
64.00	Ridge, bears NE. and SW.
	Descend gradually
74.50	Descend abruptly 150 ft. to
80.54	The cor. of secs. 20, 21, 28 & 29.
	Land mountainous, N. 48 chs. rocky land with a n.w. drain. S 32 chs. rocky land with westerly drain. Soil rocky, sub soil rocky, very poor. Timber, Scrub cedar, undergrowth chaparral. No indications of coal. Mountainous and timbered land 80.54 ch.

August 1: At 7h 06m a.m. l.m.t. I set off 40° 34' on the lat arc., 18° 15 N. on the decl. arc and determine a meridian with the solar at the cor. of secs. 8, 9, 16 & 17 which is a quartzite stone 8x12x6 inch above ground, firmly set and marked and witnessed as described by the Surveyor General. I renew marks on stone and rebuild accessories to corner to agree with old notes. Thence I run N. 0° 03' W., bet. secs. 8 & 9. Over mountainous land thru scattering scrub cedar

	Ascend over land facing SW.
4.30	Ridge, 50 ft. above sec. cor., bears NW. and SE.
	Descend over land facing N.

Subdivisions T. 3 S., R. 22 E.

Chains	
13.70	Old mail road, bears E. & W.
17.30	Draw, 75 ft. below ridge, course E.
	Ascend 30 ft. to
19.00	Low spur, projects E.
	Descend 25 ft.
22.70	Wash, 15 lks. wide, 8 ft. deep, course E.
	Gradually ascend.
23.50	Base of coal reef, bears E. & S. 60° W.
	Begin ascent over solid rocks.
25.00	Tunnel of coal mine belonging to
	Massey and Wynn, bears W. 3 chs.
	Enter coal outcroppings
33.00	Top of ridge and coal reef, 100 ft.
	above wash, bears E. and S. 60° W.
	Enter dense timber, descend abruptly
40.00	200 ft. below ridge,
	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4
	sec. cor. marked on brass cap 1/4
	S 8 on W. half and S 9 on E. half;
	from which
	A cedar 7 ins. diam., bears S. 85½° W.,
	33 lks. dist., marked
	1/4 S 8 B.T.
	A cedar 8 ins. diam., bears N. 87° E.
	46 lks. dist., marked
	1/4 S 9 B.T.
45.30	Draw, course N. 70° E.
	Ascend 25 ft.
46.60	Spur, projects NE.
	Descend 50 ft.
48.30	Wash, 20 lks. wide, 200 ft. below 1/4
	sec. cor., course E.
	Coal outcroppings in wash 7 chs. E.
	Ascend 50 ft.
51.00	Ridge, bears E. & W.
	Descend land facing N.
58.30	Wash, 6 lks. wide, course S. 70° E.
	Ascend 100 ft. to
69.00	Ridge, bears E. and W.

Chains	
	Descend 75 ft.
72.70	Wood road, bears E. & W.
79.20	Road, Vernal, Utah to Brush Creek, bears E. & W.
79.25	Wash in hollow, 25 lks. wide, 125 ft. below ridge, course E.
	Ascend 60 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground and a mound of stone for cor. of secs. 4, 5, 8 & 9, marked on brass cap
	T. 3 S S 5 in NW.,
	R 22 E S 4 in NE.,
	S 9 in SE. and
	S 8 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
	Trees within limits in all secs, but too poor to mark.
	Land, mountainous with an easterly drain. Soil, rocky and sandy, 4th ratio, sub-soil rocky.
	Coal outcroppings on S 4 9 chs.
	Timber scrub cedar & pinon.
	Undergrowth chaparral
	Mountainous and timbered land 8000 chs.
	N 89° 47' E. on a random line between secs. 4 & 9.
40.00	Set temporary ¼ sec. cor.
80.36	Intersect N. & S. line 5 lks. S. of the cor. of secs. 3, 4, 9 & 10 which is a limestone 6 x 12 x 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and re-establish it at the same point as follows; Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for

Subdivisions of T. 3 S., R. 22 E.

chains	
	cor. of secs 3, 4, 9 & 10 marked on brass cap T 3 S S 4 in NW., R 22 E S 3 in NE., S 10 in SE. and S 9 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. No trees within limits suitable for bearing trees. Thence I run, S. 89° 45' W., on true line bet. secs. 4 & 9.
	Over mountainous land draining NE. through scattering scrub cedar & pinon. Gradually ascend.
2.00	Spur, projects N. Descend.
14.10	Wash in hollow, 15 lks. wide, 20 ft. deep course N 80° E. Road in wash, from Vernal, Utah to Brush, Creek, bears N 80° E. and S. 80° W. Thence over land facing south across series of spurs and washes.
21.50	Wash, course S. Ascend. 25 ft
28.00	Spur, projects S. Descend. 25 ft
30.50	Wash, course S. Ascend. 30 ft
32.50	Spur, projects S Descend. 25 ft
39.00	Wash - course S. Ascend. 40 ft.
40.18	On spur, projecting S. Set an iron post, 3 ft. long, 1 in. in

Chains	
	dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 4 on N. half and S 9 on S. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable. Trees within limits but none suitable for bearing trees. Descend.
49.20	Wash, course S. Ascend.
51.00	Spur, projects S. Descend.
52.50	Wash, course S. Thence gradually ascend over land sloping nearly south.
80.36	The cor. of Secs. 4, 5, 8 and 9. Land mountainous draining E. with rocky N. + S. slopes from ridges, soil, rocky with sub-soil of light loam. 4th rate. Timber scrub-cedar and pinon. Undergrowth chaparral. No indications of coal on this line: Mountainous and timbered land 80.36 ch. August 1: At this sec. cor. I set off 18° 11' N. on the decl. arc; and at 12h 06m p.m. l.m.t. observe the sun on the meridian: the resulting lat is 40° 35' which is the proper latitude.
	N. 0° 03' W., on a random line, bet secs 4 + 5.
40.00	Set temporary 1/4 sec. cor.
70.60	Intersect N. bdy. of the tp. 2.30 chs. N. 89° 55' E. of the cor. of secs. 4, 5 32, and 33. described in book "R" of this survey. Set an iron post, 3 ft. long, 2 ins. in

Subdivisions of T. 3 S., R. 22 E.

chains

dia., 24 ins. in the ground and mound of stone for closing corner of secs. 4 & 5 marked on brass cap
CCT 2 S R. 22 E S 32 S 33 on N half & S 4 S 5 on S half; raise a mound of stone 3 ft. base, 2 ft. high S. of corner.
Pits impracticable. I destroy all marks on old cor. pertaining to secs. 4 & 5.
Thence I run
S. 0° 03' E., on true line bet. secs. 4 & 5.
Descend over rough mountainous land sloping S. towards Brush Creek
4.60 Head of gulch, drains SE.
Ascend 75 ft to
16.50 Spur, projects SE.
Descend abruptly 100 ft to
20.60 Brush Creek, 30 lks wide, clear water, 1 to 2 ft. deep, rapid current, rocky bottom, course S. 70° E.
Enter dense willow and chaparral undergrowth.
24.10 Leave undergrowth, bears E. & W.
Begin gradual ascent over land sloping N.
An old cabin bears E. 1.50 chs and corral W. 1 ch.
Enter plowed field, bears West 50 lks and East.
29.00 Leave plowed field, bears West 50 lks and East.
Thence up steep ascent.
30.20 Base of perpendicular sandstone ledge, 120 ft. high, bears E. & W.
30.60 Point for 1/4 Sec. cor. falls on ledge where corner cannot be set.
30.90 Top ledge, bears E. & W.
Continue to ascend.
31.05 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground and

Subdivisions of T. 3 S., R. 22 E.

Chains	
	mound of stone for witness cor to the 1/4 sec. cor. marked on brass cap. T 3 S R 22 E on N. half S 5 on W. half, S 4 on E. half, with W C 1/4; raise a mound of stone, 2 ft. base, 1½ ft. high W. of corner.
	Pits impracticable
39.60	Ridge, 450 ft. above, Brush Creek bears E & W.
	Enter dense forest of scrub cedar and pinon bears NE & SW.
	Gradually descend over land draining W.
53.60	Draw, drains W.
	Ascend.
55.00	Spur, projects W.
	Descend.
57.30	Head of canyon, drains W.
	Ascend.
64.10	Wood road, bears E & W.
65.60	Wood road bears E & W.
66.80	Ridge bears E & W.
	Descend abruptly 75 ft. to
70.60	The cor. of secs. 4, 5, 8 & 9.
	Land mountainous N 39.60 chs. N & S. slopes. Brush Creek canyon, rocky soil, with some good sandy loam soil on creek bottom. S 35 chs. SW slopes of land draining W. soil sandy & rocky. Timber, cedar & pinon on S. 35 chs. undergrowth, willow, chaparral & shadscale.
	No indications of coal. Mountainous and timbered land 70.60 chs.
	August 1, 1911

July 29: for solar observation

Subdivisions of T. 3 S., R. 22 E.

Chains	
	see line between secs 28 & 29, page. 10.
	The cor. of secs. 19, 20, 29 & 30 is a sandstone 9 x 10 x 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor and re-establish it at the same point as follows:
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor of secs 19, 20, 29 & 30 marked on brass cap.
	T 3 S S 19 in NW.,
	R 22 E S 20 in NE.,
	S 29 in SE. and
	S 30 in SW. quadrant.
	raise a mound of stone, 2 ft base 1 1/2 ft. high W. of cor.
	Pits impracticable.
	Thence I run
	S 89° 58' E., on a randome line, between secs 20 & 29.
40.00	Set temporary 1/4 sec. cor.
80.36	Intersect N & S. line 30 lks. N. of the cor. of secs. 20, 21, 28 & 29 heretofore described.
	Thence I run
	N 89° 45' W., on true line bet. secs. 20 & 29.
	Over mountainous land facing SE.
	Ascend
2.00	Spur, 50 ft. above sec. cor., projects S.
	Enter dense forest of cedar & pinon.
	Thence over land facing nearly S.
9.40	Wash, course S.
	Ascend
18.00	Ridge, bears N & S.
	Descend abruptly over land facing SW

Subdivisions of T. 3 S., R. 2 E.

Chains	
24.00	Draw, drains SW.
	Ascend.
28.70	Spur, projects SW.
	Thence descend over land facing west.
40.18	225 ft. below ridge.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap. 1/4 S 20 on N. half and S 29 on S. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of corner.
	Pits impracticable
	No trees within limits.
52.80	Wash - 8 lks. wide, 3 ft. deep, course SW.
	Leave cedar and pinon, bears NE & SW.
	Ascend 75 ft. to
57.60	Top of gently rolling bench, bears NE & SW.
	Thence across bench.
76.00	Leave bench, bears NE & SW
	Descend abruptly 100 ft. to
80.36	The cor. of secs. 19, 20, 29 & 30.
	Land mountainous and rolling with south westerly drain.
	Soil, rocky with sub-soil of gravel and rocks, 4th rate. Timber scrub cedar & pinon on East 52.80 chs. Undergrowth, shadscale. No indications of coal. Mountainous or timbered land 80.36 chs.
	July 29, 1911

August 3: For solar observation see line between secs. 3 & 4, page 135.
From the cor of secs. 7, 8, 17 & 18 which is a sandstone 13 x 14 x 6 ins. above ground, firmly set, and marked

Subdivisions of T. 3 S., R. 22 E.

Chains	
	and witnessed as described by the Surveyor General.
	I run,
	N. 0° 04' W., bet. secs. 7 & 8.
	Over mountainous land draining SE. thru dense forest of cedar and pinon.
	Gradually descend 20 ft to
7.00	Head of draw, drains SE.
	Coal outcroppings extend south easterly along draw.
	Ascend abruptly 150 ft. to
18.00	Top rocky ridge, bears E. and SW.
	Descend abruptly 350 ft. over land facing N. to
36.00	Head of Steinacker Draw, course NW. 4 chs., thence S. 60° W.
	Leave cedar & pinon bears NW. & SE.
	Thence across west end of open sage brush flat.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 7 on W. half and S 8 on E. half; raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable.
	August 3: At this cor. I set off 17° 40' N. on the decl. arc; and at 12h 06m a. m. l. m. t. observe the sun on the meridian., the resulting lat is 40° 34'
49.50	Road from Vernal, Utah, to Saw mill and Brush Creek, bears NE. & SW.
	About 4 chs. NE. road forks NE to Saw Mill and east to Brush Creek
56.50	Wash, 10 lks. wide, 2 ft. deep, course NE.
	Leave flat, enter dense cedar and

Subdivisions of T. 3 S., R. 22 E.

Chains	
	Junon, bears E. + W.
64.50	Wash, 5 lks. wide, 3 ft. deep, course East.
	Ascend 50 ft. to
71.00	Spur, projects NE.
	Descend 50 ft. to
73.50	Draw, 10 lks. wide, 2 ft. deep, course NE.
	Ascend 50 ft. to
75.00	Spur, projects E.
	Descend 50 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 5, 6, 7 & 8 marked on brass cap.

T 3 S S 6 in NW.,
R 22 E S 5 in NE.,
S 8 in SE.
S 7 in SW. quadrant,
from which

A cedar, 15 ins. diam., bears N. 60° E., 360 lks. dist., marked T. 3 S R 22 E S 5 BT.

A cedar, 16 ins. diam., bears S. 15½° E. 50 lks. dist., marked T 3 S R 22 E S 8 BT.

A cedar, 14 ins. diam., bears S. 60° W. 103 lks. dist., marked T 3 S R 22 E S 7 BT.

A cedar, 16 ins. diam., bears N. 49½° W. 246 lks. dist., marked T. 3 S R 22 E S 6 BT.

S. 18 chs. SE. slope of rocky ridge with coal indications. N 62 chs. N. slope ridge for 18 chs. thence over sandy land draining East. Soil rich sandy loam & gravel, 2nd rate. Undergrowth sage brush and shadscale. Timber, cedar & junon. Mount arnous land 39.50 chs.

Subdivisions of T. 3 S., R. 22 E

Chains	
	N. 89° 50' E., on a random line between secs. 5 & 8.
40.00	Set temporary 1/4 sec. cor.
80.39	Intersect N. & S. line 11 lks. N. of the cor. of secs. 4, 5, 8 & 9 heretofore described.
	Thence I run S. 89° 55' W., on true line bet. secs. 5 & 8 over mountainous land draining E. thru forest of cedar and pinon.
	Gradually ascend over south slope of ridge.
11.60	Road, from Vernal, Utah to Brush Creek, bears NW., and S. 80° E.
12.30	Head of hollow, drains S. 80° E.
14.30	Ridge, 70 ft. above sec. cor. bears S. 80° W., & N. 80° E.
	Same road, bears NE. & SW.
	Thence over broken land draining N.
16.30	Wood road, bears NW. and SE.
40.00	Wash, 10 lks. wide, 1 ft. deep, course N.
	Ascend.
40.19 1/2	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 5 on N. half and S 8 on S. half; from which
	A cedar, 36 ins. diam., bears N. 2 3/4° E., 129 lks. dist., marked 1/4 S 5 BT.
	A. cedar, 15 ins. diam., bears S. 18 3/4° W., 53 lks. dist., marked 1/4 S 8 BT.
44.20	Spur, 60 ft. above wash, projects N. Gradually descend 60 ft.
56.10	Road, Vernal, Utah to Saw Mill, bears NE. and SW.
59.20	Wash, 10 lks. wide, 8 ft. deep, course N.

Chains	
73.20	Wash, 10 lks. wide, 10 ft. deep, course NE.
	Gradually ascend over land sloping E.
80.39	The cor. of secs. 5, 6, 7 & 8.
	Land mountainous, E. 14 chs. Eastern slope and drain of ridge, W. 66 chs. N. and NE slopes rocky land. Soil rocky & gravelly, sub-soil sandy & rocky. Under-growth, sage and chaparral. Timber, cedar & pinon.
	No indications of coal. Mountainous land 80.39 chs.
	August 3, 1911.
	August 4: At 7h. 06m. a.m. l.m.t. I set off 40° 35' on the lat. arc., 17° 29' N. on the ded. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 7 & 8.
	Knowing that a closing corner will be necessary upon the W. bdy. of the Tp., I run
	West, on true line bet. secs. 6 & 7. Gradually ascend over mountainous land, through dense forest of cedar & pinon.
38.00	Top of ascent and ridge, 100 ft. above sec. cor., bears N. & S.
	Descend over land sloping NW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 6 on N. half and S 7 on S. half; from which
	A cedar, 8 ins. diam., bears N. 5 3/4° E., 123 lks. dist., marked 1/4 S 6 BT
	A cedar, 12 ins., diam., bears S. 37 1/4° E.

Subdivisions of T. 3. S., R. 21 E.

chains	
	24 lks. dist., marked 1/4 S 7 13 T.
47.40	Wash, 8 lks. wide, 3 ft. deep, 150 ft. below ridge, course SW.
	Ascend 80 ft. to
57.40	Spur, projects S.
	Descend, 75 ft. to
65.00	Gulch, 10 ft. deep, course S.
	Ascend abruptly 150 ft. to
74.10	Rocky ridge, bears NW. & SE.
	Descend 125 ft. to
84.09	Intersect W. bdy. of the tp. 5.10 chs. north of the cor. of secs. 1, 6, 7 & 12 which is a sandstone 10 x 12 x 8 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground and mound of stone for closing cor. of secs. 6 & 7. Marked on brass cap.
	T. 3 S on N. half.
	CC R 21 E S 1 S 12 on W. half and
	S 6 S 7 R 22 E on E. half,
	raise a mound of stone, 2 ft. base, 1 1/2 ft. high E. of corner.
	Pits impracticable
	Trees within limits but none suitable for bearing trees.
	I destroy all marks on old cor pertaining to secs. 6 & 7.
	Land mountainous. E 38 chs. Eastern slope of ridge. W 46 chs. NW & SE slopes of ridges draining SW. soil, deep sand & bed rock. Sub-soil, rocky. Undergrowth Chaparral. Timber cedar & pinon. No indications of coal
	Mountainous or timbered land 84.09 chs.

chains.	
	August 4: at this cor. I set off 17° 22½' N. on the decl. arc; and at 12h. 06m. g. m. l. m. t. observe the sun on the mer; the resulting lat is 40° 35' which is the proper lat.
	Knowing that closing corners are necessary on the N. Bdy of the tp., I run. N. 0° 04' W., on true line, bet. secs. 5 & 6 Over broken mountainous land thru dense forest of scrub cedar and pinon. descend 20 ft.
6.35	Wash, 10 lks. wide, 1 ft. deep, course E. Ascend 75 ft. to
10.00	Ridge, bears E. and W. Descend 75 ft. to
14.15	Wash, 8 lks. wide, 1 ft. deep, course E. Ascend 125 ft. to
24.50	Ridge, bears E. and W. Descend abruptly over high ledges into canyon.
30.60	Wash in canyon, 15 lks. wide, 2 ft. deep, 300 ft. below ridge, course E. Ascend from canyon over rocky land sloping S.
40.00	175 ft. above canyon wash. Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground and a mound of stone for 1/4 sec. cor., marked on brass cap. 1/4 S 6 on W. half and S. 5 on E. half,, raise a mound of stone 2 ft. base., 1½ ft. high W. of cor. Pits impracticable
42.90	Rocky spur, 75 ft. above 1/4 cor. projects SE. Descend 25 ft. to

Subdivisions of T. 3 S., R. 22 E.

Chains.	
50.25	Head of draw, drains SE.
	Ascend 50 ft. to
52.50	Ridge, bears E. & W.
	Descend abruptly 100 ft. over steep land facing N.
60.50	Gulch, 15 lks. wide, course N. 60° W.
	Ascend 50 ft. to
64.75	Spur, projects W.
	Descend 75 ft. to
66.65	Canyon wash, 40 lks. wide, 20 ft. deep, course NE.
	Asc. 30 ft. to
70.45	Intersect N. Bdy of the tp 2.36 chs N.89° 55' E. of the witness cor. to secs. 5, 6, 31 & 32 described in book "R" of this survey.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing corner of Secs. 5 & 6 marked on brass cap
	C C T 2 S R 22 E S 31 S 32 on N. half S 5 S 6 on S. half: raise a mound of stone 2 ft. base, 1½ ft. high S. of corner.
	Pits impracticable
	I destroy all marks on W.C. pertaining to secs 5 & 6. and build mound of stone N. of cor. on account of wash.
	Land Mountains draining E, with steep N. & S. slopes of ridges. Soil rocky & gravelly, with a rocky sub-soil, 4th rates. Undergrowth, sage brush and chaparral. Timber, scrub cedar & pinon. No indications of coal. Mountainous and timbered land
70.45 chs.	August 4, 1911

Retracement of Subdivisions of T. 3 S R 22 E.

Chains	
	July 26: For solar observation see line between secs 33 & 34 page 2.
	From the cor. of secs. 26, 27, 34 & 35, heretofore described, I run S. 0° 02' E., retracing bet. secs. 34 & 35. Over mountainous land through dense forest of scrub cedar. Ascend 75 ft. over land facing N. to
7.00	Ridge, bears N. 70° W. and S. 70° E. Gradually descend
13.50	Draw, 50 ft. below ridge, drains SE. Ascend 75 ft. to
19.00	Ridge, bears NW & SE. Descend 80 ft. to
29.00	Draw, drains E. Ascend 50 ft to
31.00	Low ridge, bears E. & W. Descend 75 ft. to
35.00	Draw, drains E. Ascend 100 ft. to
39.90	On top of ridge, bears E. & W. Fall 4 lks. W. of the 1/4 sec. cor. which is a sandstone 15 x 7 x 8 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. The true bearing of this line is S. 0° 05' E., and the distance is 39.90 chs. From the 1/4 sec. cor. I continue S. 0° 02' E. Descend 60 ft. to
4.00	Wash, 10 lks wide, 1 ft. deep, Course E. Ascend 90 ft. to
7.00	Ridge, bears N. 70° W., and S. 70° E. Leave cedar, bears E. & W. Gradually descend over land facing S. 100 ft. to
9.20	Wash, 15 lks. wide, 3 ft. deep, Course S. 60° E.

Chains.

Thence up steep ascent, 100 ft to
39.90 Fall 39 lks E. of the cor. of secs
2, 3, 34 & 35 on the S. bdy. of the
tp. which is a sandstone 11x11x6
ins above ground, firmly set,
and marked and witnessed
as described by the surveyor
General.
The true bearing of this line is
S 0° 32' W., and the distance is
39.90
Land, mountainous draining
E. soil rocky & clay with sub-
soil, rocky. Undergrowth, short
chaparral, timber, some cedar
on N. 1/4 chs. Mountainous or timber
land 76.10 chs.

July 26, 1911

July 28: At 8h 06m a.m. l.m.t
I set off 40° 32' on the lat. arc;
19° 11' N. on the decl. arc; and
determine a meridian with the
solar at the cor. of secs 22, 23,
26 & 27 which is a sandstone
10x11x5 ins. above ground,
firmly set, and marked and
witnessed as described by the
Surveyor General.
Thence I run
S 0° 02' E., retracing line bet. secs. 26 & 27
Over mountainous land, draining
E.
Ascend 40 ft. to
1.20 Ridge, bears E. and W.
Descend 45 ft to
10.70 Draw, drains E.
Ascend 75 ft
20.00 Ridge, bears NW & SE.
Descend 60 ft
26.40 Draw, drains SE.

Retracement of Subdivisions of T. 3 S., R. 22 E.

Chains.	
	Ascend 50 ft.
35.00	Top flat ridge, brans E. & W.
40.96	Fall 25 lks. W. of the 1/4 sec. cor. which is a sandstone 11 x 12 x 7 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. The true bearing of this line is S. 0° 23' E., and the distance is 40.96 chains. From the 1/4 sec. cor. I continue S. 0° 02' E.
3.00	Begin descent from ridge, brans. E. & W.
	Descend 25 ft to
5.70	Hollow, drains E.
	Ascend 50 ft. to
8.00	Ridge, brans E. & W.
	Descend 30 ft to
9.60	Wash, drains E.
	Ascend 20 ft. to
10.20	Point of spur, projects E.
	Descend 30 ft to
12.20	Wash, 10 lks. wide, 3 ft. deep, course NE.
	Begin steep ascent over land facing N.
33.30	Ridge spur, 300 ft. above wash, brans NE & SW.
	Descend 20 ft to
36.00	Draw, drains E.
	Ascend abruptly 75 ft. to
40.20	Fall 16 lks. W. of the cor. of secs. 26, 27, 34 & 35 heretofore described. The true bearing of this line is S. 0° 16' E., and the distance is 40.20 chs. Land mountainous, draining E. Soil rocky 4th rate, sub-soil rocky. Undergrowth chaparral. No timber. Mountainous land 81.16 chs.

Retracement of subdivisions of T. 3 S., R. 22 E.

Chains	
	July 27: For solar observation see line between secs. 3 and 34 book "R" of this survey.
	From the cor. of secs. 21, 22, 27 & 28, heretofore described I run
	East, retracing line bet. secs. 22 & 27 over mountainous land, through forest of cedar & pinon.
	Descend 10 ft. to
0.30	Wash, 25 lks. wide, 2 ft. deep, course NE.
	Ascend.
20.00	Ridge, 125 ft. above wash, bears NE. & S.
	Descend abruptly over land sloping NE. into hollow.
29.00	N. edge of wash in hollow, 180 ft. below ridge, course SE.
	Ascend 75 ft. to
35.50	Point of spur, projects S.
	Descend 75 ft.
39.36	Fall 380 lks. S. of the 1/4 sec. cor. which is a sandstone 9 x 9 x 5 ins above ground, firmly set and marked and witnessed as described by the Surveyor General.
	The true bearing of this line is N 84° 29' E. and the distance is 39.54 chs.
	From the 1/4 sec. cor. I continue East.
	Descend 100 ft. to
10.00	Wash 10 lks. wide, 10 ft. deep, course NE.
	Leave cedar, bears NE & SW.
	Ascend 50 ft. to
14.50	Spur, projects N. descend 60 ft to
19.70	Same wash, course SE.
	Ascend 100 ft to
27.00	Spur, projects S.
	Descend 125 ft to
40.75	Same wash, course N. 80° E.

Retracement of Subdivisions of T. 3 S., R. 22 E.

	Chains	
1	41.12	Fall 277 lks. N. of the corner of secs. 22, 23, 26 & 27 heretofore described.
		The true bearing of this line is S 86°09' E., and the distance is 41.21 chs.
		Land, mountainous, draining E.
		Soil, clay and rocky with sub-soil of rocks. No undergrowth.
		Timber cedar on West 50.00 chs.
		No indications of coal
		July 27, 1911
		August 3: At 7h. 06m. a.m. l.m.t. I set off 40° 36' on the lat arc; 17° 44' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 & 34 on the N. Bdy. of the tp. re-established by me August 2, 1911.
		Thence I run.
		S. 0° 04' W., retracing line bet. secs. 3 & 4.
		Over mountainous land draining S. thru scattering cedar.
		Gradually descend 125 ft. to
	17.50	Gulch, drains SW.
		Ascend 75 ft. to
	25.00	Ridge, bears NE. and SW.
		Descend.
	27.50	Fall 30 lks W. of the 1/4 sec. cor. which is a + on solid sandstone ledge with 1/4 to the west from which
		A cedar 6 ins. diam., bears S 60½ W, 30 lks. dist., marked 1/4 S 4 BT.
		A cedar 18 ins., diam., bears, S 43° E 31 lks. dist., marked 1/4 S 3 BT.
		The true bearing of this line is

Retracement of Subdivisions of T. 3 S., R. 2 E.

Chains.

S. 0° 31' E., and the distance is 27.50 chs.
From the 1/4 sec. cor I continue S 0° 04' W
Descend abruptly over ledges.
7.50 Base of descent, 80 ft. below 1/4 sec. cor, bears E. & W.
Enter creek bottom and dense brush.
11.10 Brush Creek, 40 lks. wide, 1 to 2 ft. deep, clear water, rapid current, rocky bottom, course East.
Leave brush and creek bottom.
Ascend 75 ft. to
10.50 Ridge, bears E. & W.
Descend 50 ft. to
12.20 Gulch, drains E.
Ascend 75 ft. to
17.50 Ridge, bears E. & W.
Descend 50 ft. to
20.10 Hollow, drains E.
Ascend 60 ft. to
25.00 Ridge. bears E. & W.
Descend 125 ft. to
42.70 Wash, 50 lks. wide, 15 ft. deep course NE. Road in wash, bears NE. and SW. ascend 75 ft. to
43.00 Fall 260 lks. W. of the cor. of secs. 3, 4, 9 & 10, heretofore described
The true bearing of this line is S 3° 24' E., and the distance is 43.07 chs.
Land, mountainous draining S and E. Soil, rocky 4th rate, Sub-soil rocky 4th rate. Timber scattering scrub-cedar, Undergrowth dense willow on creek bottom.
Mountainous or timbered land 70.50 chs

July 31: For solar observation see line between secs 20 & 21 page 13
From the cor of secs. 16, 17, 20 & 21

Chains.	
	Heretofore described, Drum.
	West, retracing line, bet. secs. 17 & 20.
	Over mountainous land draining
	W. Gradually ascend 50 ft. to
6.80	Spur, projects S.
	Descend abruptly 100 ft. to
13.50	Wash in canyon, 15 lks. wide, 10 ft
	deep, course NW.
	Ascend 75 ft. to
17.00	Spur, projects N.
	Descend 100 ft. to
23.00	Same wash, 15 lks. wide, 10 ft. deep
	course SW.
	Ascend 100 ft. over land facing
	SE. to
36.50	Ridge, bears NE. and SW.
	Descend
40.27	Fall 51 lks. N. of the 1/4 sec. cor.
	which is a quartzite stone
	15 × 15 × 7 ins. above ground,
	firmly set and marked and
	witnessed as described by the
	Surveyor General.
	The true bearing of this line is
	S. 89° 17' W., and the distance is
	40.27 chs.
	From the 1/4 sec. cor. I. continue
	West.
	Continue to descend.
15.00	Canyon wash, 30 lks. wide, 20 ft.
	deep, 125 ft. below ridge, course
	S. 60° W.
	Ascend 50 ft. to
23.00	Spur, projects S.
	Descend 75 ft. to
24.40	Draw, drains S.
	Ascend 75 ft. to
30.00	Ridge, bears NE. and SW.
	Descend gradually 40 ft. to
40.50	Fall 51 lks. S. of the cor. of secs

Retracement of Subdivisions of T. 3 S., R. xx

Chains	
	17, 18, 19 & 20 which is a limestone 8 x 11 x 8 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. The true bearing of this line is N. 89° 17' W., and the distance is 40.50 chs. Land mountainous draining west. soil rocky & clay with sub-soil hard clay & rocks, 4th rates. Undergrowth, short chaparral No indications of coal. No timber Mountainous land 80.77 chs. July 31: At this cor. I set off 18° 25' N. on the decl. arc; and at 12h. 06m p. m. l. m. t. observe the sun on the meridian; the resulting lat. is 40° 33'.
	From the cor. of secs. 7, 8, 17 & 18 heretofore described, I run East, retracing line bet. secs. 8 & 17. Over mountainous land, through scattering cedar. Descend abruptly 75 ft to
3.40	Wash, 15 lks. wide, 10 ft. deep, course, S. Coal outcroppings in wash. Ascend 40 ft. to
6.80	Spur, projects S. Coal outcroppings on line. Descend 75 ft. to
10.60	Wash, 20 lks. wide, 7 ft. deep, course SW. Leave coal outcroppings. Gradually ascend thru dense sage brush.
11.20	Road, bears NE. and SW.
14.00	Spur, projects N. Descend.

Retracement of Subdivisions T. 3 S., R. 2 E.

Chains	
16.60	Same road, bears N. & S.
17.80	Wash, 20 lks. wide, 8 ft. deep, course NW.
26.60	Wash, 15 lks. wide, 7 ft. deep, course SW.
29.30	Road, bears N. & SW.
38.00	Low spur, projects SW.
	Descend.
40.20	Fall 5 lks. N. of the 1/4 sec. cor. which is a sandstone 9x10x8 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
	The true bearing of this line is S. 89° 56' E., and the distance is 40.20 chs.
	From the 1/4 sec. cor. I. continue East.
14.40	Mail road, bears NE. and SW
20.40	Wash, 15 lks. wide, 4 ft. deep, course SW.
22.50	Wood road, bears NE. and SW.
40.10	Fall 28 lks. S. of the cor. of secs. 8, 9, 16 & 17 heretofore described
	Land mountainous draining SW. Soil gravelly with sub-soil of light loam. Undergrowth sage brush timber, scattering cedar. Coal indications on W 10.60 chs. of mile.
	Mountainous or timbered land 80.30 chs.
	The true bearing of this line is N. 89° 36' E. and the distance is 40.10 chs.
	July 31, 1911.

General Description

The portion of this Township as surveyed under this assignment contains chiefly mountainous land. The soil of the mountainous part is poor, rocky or clay. The soil of a portion of sec 8 and and along parts of Brush Creek which flows through secs 4 & 5 is a rich loam and can produce abundant crops with irrigation. Scrub cedar and pinon trees are scattered throughout the township but are of no commercial value. A short undergrowth, of shadscale and sage brush predominates on all the land while along Brush Creek a heavy growth of willow and chaparral is found.

A coal mine now in operation, and whose tunnel is about 100 ft. long is situated in sec. 8, and from surface indications it is probable that large bodies of bituminous coal underlie other portions of the tp., especially in secs. 8 & 9. The S 1/2 of sec. 8 and sec. 9 should be set aside as coal lands.

Brush Creek, which flows through secs. 4 & 5 in an easterly direction affords the only water for the township.

There are no settlers in the portion of the tp. as surveyed under this assignment.

Howard W Miller
U. S. Transitman

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 subdivision of T.24 S., R.26 E.

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

which are represented in the foregoing field notes as having been executed by him, and under his direction; and that said survey has been, in all respects, to the best of our knowledge and belief, well and faithfully executed.

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

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

.....

U. S. Surveyor.

FINAL OATH OF UNITED STATES SURVEYOR.

I, Howard W.Miller, U. S. ~~Surveyor~~ Transitman, do solemnly swear that, in pursuance of special instructions received from the U. S. Surveyor General for Utah bearing date of the 6 day of August, 1910, I have well, faithfully, and truly, in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the resurvey and retracement of N. and S.bdrs.,and the retracement and survey of subdivisions of Township 3 South, Range 22 East

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

Howard W.Miller
U.S.Transitman. ~~U. S. Surveyor.~~

Subscribed by said Howard W.Miller, and sworn to before me this 23 day of November, 1911.

Thomas Bell
U.S.Surveyor-General
for Utah.

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,
Salt Lake City, Utah, Jan.23, 1912

The foregoing field notes of the survey ~~of~~ and retracement of fractional subdivisional lines of Township 3 South, Range 22 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W.Miller,Transitman
under his special instructions dated August 6, 1910, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys and retracements they describe, are hereby approved.

Thomas Bell
U. S. Surveyor General.

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

_____
U. S. Surveyor General.

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BOOK A-379

FIELD NOTES

OF THE Re-SURVEY ~~OF THE~~

and retracement of the North and South boundaries of T. 3 S., R. 22 E

Of the Salt Lake Base Line and Meridian,

In the State of Utah

EXECUTED BY

Howard W Miller

In the capacity of U. S. Transitman ~~Surveyor~~, under instructions dated August 6, 1910, issued by the United States Surveyor General to govern surveys included in Group No. 4, which were approved by the Commissioner of the General Land Office, August 30, 1910, pursuant to authority contained in the Act of Congress dated ....., 191...

Survey commenced July 27, 1911

Survey completed August 2, 1911

6—151

Bta. S. Bdy 10087
Bar. N. Bdy 30189

INDEX DIAGRAM.

Township 7 South, *Range* 13 East

6	5	4	3	2	1
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30	29	28	27	26	25
31	32	33	34	35	36

Retracement of the South boundary of T. 3 S., R. 22

Chains.	
	Survey commenced July 27, 1911 and executed with a W. & L. E. Gurley solar compass No. 10443. For description and test of instrument see book "Q" of this survey. I know the instrument to be in perfect adjustment by observations made on Polaris at the cor. of secs. 3, 4, 33 & 34 on the south bdy. of the Tp. July 25, 1911.
	July 27: At 7h. 06m. a.m. l. m. t. I set off 40° 30' on the lat arc; 19° 25' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 2, 3, 34 & 35 heretofore described.
	Thence I run.
	West, retracing line bet secs. 3 & 34.
	Over mountainous land.
	Descend steep NW. slope of ridge, 75 ft. to
2.80	Hollow, drains N.
	Ascend abruptly 85 ft. to
10.00	Ridge, bears NW. and SE.
	Descend 50 ft. to
15.40	Hollow, drains SW. 4 chs. thence S.
	Ascend 75 ft. to
20.00	Ridge, bears N. & S.
	Thence gradually descend over land sloping SW.
30.50	Wash, 10 lks. wide, 1 ft. deep, 75 ft. below ridge, course SW.
	Ascend 75 ft. to
32.00	Low ridge, bears NE. and SW.
	Descend.
40.74	Fall 46 lks. N. of the 1/4 sec. cor. which is a limestone 12 x 16 x 9 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General

Retracement of the South boundary of T. 3 S., R. 2

chains

The true bearing of this line is S. 89° 21' W., and the distance is 40.74 chs.
From the 1/4 sec. cor. I continue West.

1.75 Wood road, bears NE. and SW.

7.60 Wash, 25 lks. wide, 2 ft. deep, course SW.
Ascend.

13.70 Ridge, 80 ft. high, bears N. & SW.
Thence descend over land facing SW.

28.30 Wood road in canyon, bears N. and S.

29.00 Wash in canyon, 30 lks. wide, 100 ft. below ridge, course S. 20° E.
Ascend abruptly 100 ft. over land facing East to.

33.30 Ridge, bears NW. and SE.
Gradually descend.

40.13 Fall 12 lks. N. of the cor. of secs. 3, 4, 33 & 34 on the S. bdy. of the tp. heretofore described.
The true bearing of this line is S 89° 50' W., and the distance is 40.13 chs.
Land mountainous with a southerly drain. Soil, rocky with rocky sub soil. 4th rates. Some grass for grazing purposes.
Undergrowth short chaparral.
No indications of coal.
Mountainous land for 80.87 chs.

Resurvey of the North boundary of T. 3 S., R's 21 & 22 E.

Chains

Survey commenced August 2, 1911. and executed with a W. & L. E. Gurley solar compass No. 1043. For description and test of instrument see book "Q" of this survey. I know that the instrument is in perfect adjustment, by observations made on Polaris at the cor. of secs 3, 4, 33 & 34 on the S. bdy of the Tp. July 25, 1911.

August 2: At 7h. 06m. a.m. l.m.t. I set off 40° 36' on the lat arc; 18° 00" N. on the decl. arc. and determine a meridian with the solar at the cor. of secs. 3, 4, 33 & 34 on the N. bdy. of the tp.
Having already closed upon the N. Bdy of the tp. bet secs. 4 & 5 and finding that a closing corner is necessary and that there is some material error between the cor. of secs. 3, 4, 33 & 34 and the corner of Ts. 2 & 3 S., R's 21 & 22 E., I run West on a blank line upon the N. bdy of the tp. and at 241.89 chs. intersect N. & S. line 35 lks. N. of the corner of Ts. 2 & 3 S., R's 21 & 22 E., and as these townships have not been subdivided I re-survey the township line between them as follows:
The old corner of Ts 2 & 3 S., R's 21 & 22 E. is a sandstone 12 x 15 x 7 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old corner and reestablish it at the same point as follows:

Recovery of the N. Bdy. of T. 3 S., R 22 E.

Chains

Set an iron post, 3 ft. long, 3 in. in dia., 24 in. in the ground for cor. of Ts. 2 & 3 S., Rs. 21 & 22 E., marked on brass cap

T 2 S on N. half,
T 3 S on S. half
R 21 E S 36 in NW.,
R 22 E S 31 in NE.,
R 22 E S 6 in SE. and
R 21 E S 1 in SW. quadrant;

raise a mound of stone, 2½ ft. base, 2 ft. high S. of cor.
Pits impracticable
Thence 2 run
N 89° 55' E. bet sec. 6 & 31.
Over broken mountainous land drawing S.

2.00 Wash, 6 lks. wide, 2 ft. deep, course SE.
11.30 Canyon wash, 30 lks. wide, 11 ft. deep, course N. 70° E.
Thence over land facing N.
Ascend 50 ft. to
14.05 Spur, projects N.
Descend 50 ft. to
20.05 Wash, 5 lks. wide, 5 ft. deep, course N.
Ascend 30 ft. to
21.75 Spur, projects N.
Descend 110 ft. to
25.00 Wash, 6 lks. wide, 10 ft. deep, course N.
Ascend 50 ft. to
27.25 Spur, projects N.
Gradually descend
31.59 Set an iron post, 3 ft. long, 1 in. in dia., 16 in. in the ground for ¼ sec. cor. marked on brass cap ¼ S 31 on N. half and S 6 on S. half; raise a mound of stone, 2 ft. base, 1½ ft. high N. of corner
Pits impracticable
From this point the old ¼ sec. cor.

Resurvey of the N. Bdy of T. 3 S., R. 22 E.

Chains	
	which is a sandstone 15 x 16 x 7 ins., brass West 45 lks. dist. I destroy the cor.
49.60	Wash, 40 lks. wide, 4 ft. deep, 50 ft below spur, course NE., ascend.
58.30	Spur, 40 ft. high, projects N. Descend 35 ft. to
59.60	Wash, 5 lks. wide, 7 ft. deep, course N. Ascend 40 ft. to
63.75	Spur projects N.
71.40	Wash, 5 lks wide, 5 ft. deep, course N
78.30	Main wash, 30 lks. wide, 15 ft. deep. course SE. Ascend abruptly 100 ft. over west face bluff
81.64	On top bluff brass S 2 chs + N. Point for corner of secs. 5, 6, 31 & 32 will fall on E. face bluff where corner cannot be set, I therefore perpetuate corner on solid ground as follows. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins in the ground for witness corner to secs. 5, 6, 31 & 32, marked on brass cap. T2SR22E S31 S32 on N. half T3S S5 S6 on S half, with W.C. : raise a mound of stone, 2 ft. base 1½ ft. high W. of corner. Pits impracticable The old corner of secs. 5, 6, 31 & 32 which is a gypsum stone with marks nearly obliterated brass W. 10 lks I destroy old corner. Begin to descend
81.89	Point for corner of secs. 5, 6, 31 & 32 falls on steep E. slope of bluff. No corner set. Land mountainous with N + West slopes draining E. soil

Resurvey of the N. Bdy of T. 3 S., R. 22 E.

Chains	
	rocky very poor. sub-soil rocky. Undergrowth short sage brush. Timber a few scattering cedar. No indications of coal Mountainous land 81.89 chs.
	August 2: At this sec. cor. I set off 17°55½' N. on the ded. arc; and at 12h. 06m. p.m. l.m.t. observe the sun on the mer: the resulting lat is 40° 36'
	N. 89° 55 E., bet. secs. 5 & 32. from true corner point.
	Over broken mountainous land.
	Descend abruptly from bluff 100 ft to
6.60	Canyon wash, 35 lks. wide, 20 feet, deep, course NE.
15.50	Same wash, course, S. 70° E.
	Ascend 75 ft. to
19.50	Spur, projects S.
	Descend 100 ft. to
21.60	Enter same wash.
23.25	Leave wash, turns S. 80° E.
24.40	Same wash, course NE.
	Ascend 25 ft. to
26.00	Spur, projects N.
	Descend 75 ft. to
27.00	Same wash, course SE.
	Enter cultivated land, brass NW. & SE.
31.75	Leave cultivated land, brass N 80° W & SE.
	Enter dense willow and chaparral undergrowth.
33.00	Brush Creek, 30 lks wide, 1 to 2 ft. deep, clear water, rapid current, rocky bottom course S 30° E.
34.00	Leave brush, enter cultivated land brass, N. & S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 32 on N. half and S. 5 on S.,

Resurvey of the N. Bdy T. 3 S., R. 22 E.

Chains	
	half, raise a mound of stone, 3 ft. base, 1½ ft. high N. of corner. No trace of old corner
40.60	Road and leave field and cultivated land, bears N. & S.
	Ascend
41.20	Fence, bears NW. & SE.
50.90	Road, from Vernal, Utah to Saw Mill, bears N. & S.
52.50	Ridge, 200 ft. above 1/4 sec. cor., bears N. & S.
	Descend 100 ft to
57.20	Wash, 20 lks. wide, 10 ft. deep. course S.
	Ascend 50 ft. to
61.00	Spur, projects S.
	Descend 40 ft. to
69.30	Wash, 15 lks wide, 3 ft. deep. course SW.
	Ascend 25 ft. to
70.80	Spur, projects NW.
	Descend 20 ft. to
72.00	Wash, 5 lks. wide, 2 ft. deep, course NW.
	Begin ascent of W. side of high red ridge
80.00	125 ft. above wash:
	Set an iron post, 3 ft. long, 3 ins in dia., 24 ins. in the ground for cor. of secs. 4, 5, 32 & 33, marked on brass cap.
	T 2 S R 22 E on N half,
	T 3 S on S half.
	S 32 in NW.,
	S 33 in NE.,
	S 4 in SE. and
	S 5 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of corner.
	Pits impracticable
	From this point the old sec. cor. which is a sandstone 20 x 12 x 4 ins bears W. 20 lks. I destroy old corner.

Resurvey of the N. Bdy. of T. 3 S., R. 22 E.

Chains	
	Land mountainous and level with East and S. drains. Soil rocky and sandy loam. sub-soil rocky & sandy loam. Good soil on 12.80 chs. Undergrowth short chaparral and dense willow on creek bottom. No timber. No indications of coal Mountainous land on 64.70 chs.
	N. 89° 55' E. bet. secs. 4 & 33. Over rough mountainous land facing W. Ascend 50 ft. to
2.00	Ridge, bears N. 60° E and S. 60° W. Thence over rough rocky land sloping S. to Brush Creek.
40.00	Point for 1/4 sec. cor., on solid sandstone bedrock. Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base 26 ins high. for 1/4 sec. cor., marked on brass cap. 1/4 S 33 on N. half and S 4 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of corner. I find no trace of old 1/4 cor.
59.80	Wash in canyon, 15 lks wide, 5 ft. deep, 175 ft. below ridge, course SE. Ascend 125 ft. to
66.50	Ridge, bears N. & S. Descend 25 ft. to
67.40	Draw, drains S. Ascend
74.50	Base of sandstone ledge, bears N. & S.
75.00	Top of ledge, 130 ft. high and 200 ft. above wash, bears N. & S. Thence over broken rocky land
80.00	The cor. of secs. 3, 4, 33 & 34

Resurvey of the N. Bdy of T. 3 S. R. 22 E.

Chains.

which is a + on solid sandstone bed rock and marked and witnessed as described by the surveyor General. I reestablish the cor. at the same point as follows.

Set an iron post, 3 ft. long, 3 ins in dia., 24 ins in. a mound of stone, 4 ft. base, 2 ft. high, for cor. of secs. 3, 4, 33 & 34, marked on brass cap.

T 2 S R 22 E on N half,
T 3 S on S half.
S 33 in NW.,
S 34 in NE.,
S 3 in SE. and
S 4 in SW. quadrant.

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

Pits impracticable

Land mountainous draining S. soil rocky, 4th rate. sub-soil rocky. Timber a few scrub cedar. No indications of Coal. Mountainous land 80.00 chs.

August 2, 1911

For General Description see book "G" of this survey.

Howard W. Miller
U. S. Traverseman.

Boundaries of T. 3 S., R. 22 E.

Latitudes, Departures and Closing errors.

Lines Designated	True bearings	Distances	Latitudes N	Latitudes S	Departures E	Departures W
		chs.	chs.	chs.	chs.	chs.
S. Bdy. sec. 34						
E 1/2	S. 89° 21' W	40.74		.46		40.74
W 1/2	S. 89° 50' W	40.13		.12		40.13
S Bdy sec 33	West	80.00				80.00
W. Bdy. sec 33	N 0° 03' W	80.00	80.00			.07
S Bdy. sec. 29	N. 89° 58' W	79.96	.05			79.96
W. Bdy. sec. 29	N. 0° 04' W	80.00	80.00			.09
" 20	N. 0° 04' W	80.00	80.00			.09
N. Bdy. sec. 20						
W 1/2	S. 89° 17' E	40.50		.50	40.50	
E 1/2	N. 89° 17' E	40.27	.50		40.27	
N. Bdy sec. 21	East	80.00			80.00	
E. Bdy sec. 21	S. 0° 02' E	80.00		80.00	.05	
N. Bdy sec. 29						
W 1/2	N. 84° 29' E	39.54	3.80		39.36	
E 1/2	S. 86° 09' E	41.21		2.77	41.12	
E. Bdy sec. 27						
N 1/2	S. 0° 23' E	40.96		40.96	.27	
S 1/2	S. 0° 16' E	40.20		40.20	.19	
E Bdy. sec 34						
N 1/2	S. 0° 05' E	39.90		39.90	.06	
S 1/2	S. 0° 32' W	39.90		39.90		.37
Convergency					.12	
			244.35	244.81	241.94	241.45
				244.35	241.45	
Errors				.46	.49	

Boundaries of T. 3 S., R. 22 E

Latitudes, Departures and Closing errors.

Lines Designation	True Bearings	Distances chs.	Latitudes N chs.	Latitudes S chs.	Departures E chs.	Departures W chs.
S Bdy sec. 9	S. 89°47' W	80.00		.30		80.00
S Bdy. sec 8						
E 1/2	S. 89°36' W	40.10		.28		40.10
W 1/2	N. 89°56' W	40.20	.01			40.20
S. Bdy sec 7	West	84.16				84.16
W Bdy sec 7	North	74.96	74.96			
" 6	North	75.85	75.85			
N. Bdy	N. 89°55' E	241.89	.35		241.89	
E. Bdy sec. 4	S. 0°31' E	27.50		27.50	.25	
S 1/2	S 3°24' E	113.07		112.99	2.55	
E Bdy sec 9	S. 0°02' E	80.00		80.00	.05	
Convergency					.10	
			151.20	151.07	244.84	244.46
			151.07		244.46	
Errors			.13		.38	

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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 subdivision of T. 24 S., R. 26 E.

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

which are represented in the foregoing field notes as having been executed by him, and under his direction; and that said survey has been, in all respects, to the best of our knowledge and belief, well and faithfully executed.

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

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

.....

U. S. Surveyor.

6—2761

FINAL OATH OF UNITED STATES SURVEYOR.

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

For final oath of transitman see book "Q" T.3 S., R. 22 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, Jan. 23, 1912

The foregoing field notes of the re-survey and retracement of fractional north and south boundaries of Township 3 South, Range 22 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller, Transitman

under his special instructions dated August 6, 1911, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the re-surveys and retracements they describe, are hereby approved.

Thomas Bell
U. S. Surveyor General.

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

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

6—2761

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CVP

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KFB
MSB
VIF

4—679.

BOOK A-379

Book "S"

FIELD NOTES

M.S.B.

OF THE SURVEY OF THE

EAST BOUNDARY

RESURVEY OF THE SOUTH BOUNDARY

RESURVEY OF THE WEST BOUNDARY

AND

~~RETRACEMENT AND RESURVEY OF THE NORTH BOUNDARY~~

OF

~~T.22 S., R.24 E.~~

Of the Salt Lake Base and *Meridian,*

U t a h

AS SURVEYED BY

Howard W. Miller, *United States* ~~*Deputy Surveyor,*~~ Transitman

Under his ~~*Contract No.*~~ Assignment Group No. 4, *dated* August 6, 1910, ~~xxxx~~

Survey commenced October 27, 1910, ~~xxxx~~

Survey completed April 5, 1911, ~~xxxx~~

C—151

BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

1910:

F red Wright,	Chainman.
Karl Rothermund,	Chainman.
Roscoe C.Hallett,	Moundman.
Edward Jones,	Axman.
Ben Eigle,	Flagman.

1911:

Earl Harvey,	Chainman.
Jack Thomas,	Chainman.
Roscoe Hallett,	Moundman.
Carl Ray	Flagman.

See "Z " T.24 S., R.26 E. for period of service and certificate for Carl Ray,

BOOK A-379

INDEX DIAGRAM.

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

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

Meanders Page.....

BOOK A-379

PRELIMINARY OATHS OF ASSISTANTS.

WE, Fred Wright and Karl Rothermund do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; we will report the true distances to all notable objects, and the true lengths of all lines that we assis measuring, to the best of our skill and ability, and in accordance with instructions given us, in the surve E. bdy, resurvey of the S. bdy & retracement of the N. T. 22 S R. 24 E. S.L.B.& M., Utah.

Fred Wright, Chainm

Karl Rothermund, Chainm

Subscribed and sworn to before me this 27 day of October, 1910

Howard W. Miller
U. S. Transitman

SEAL

I ~~WE~~, Roscoe C. Hallett and

do solemnly swear that ~~we~~ will well and truly perform the duties of moundman in the establishi of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the surve E. Bdy, resurvey of the S. bdy, and retracement of the N bdy. of T. 22 S R 24 E. of the S.L.B.& M., Utah.

Roscoe C. Hallett, Mound

, Mound

Subscribed and sworn to before me this 27 day of October, 1910

Howard W. Miller
U. S. Transitman

SEAL

I ~~WE~~, Edward Jones and

do solemnly swear that ~~we~~ will well and truly perform the duties of axman in the establishment of co and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the surv E. bdy, resurvey of the S. bdy, and retracement of the N. b T. 22 S., R. 24 E. of the S.L.B.& M., Utah.

Edward Jones, Ax

, Ax

Subscribed and sworn to before me this 27 day of October, 1910

Howard W. Miller
U. S. Transitman

SEAL

I, Ben Eagle, do solemnly swear that I will well and perform the duties of flagman according to instructions given me, to the best of my skill and ability, survey of E. bdy, resurvey of the S. bdy, and retracement of th bdy. of T. 22 S R 24 E. of the S.L.B.& M., Utah.

Ben Eagle, Flag

Subscribed and sworn to before me this 27 day of October, 1910

Howard W. Miller
U. S. Transitman

SEAL

BOOK A-379

INDEX DIAGRAM.

Township 22 South, Range 24 East.

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

Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Earl Harvey and Jack Thomas
do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; we will report the true distances to all notable objects, and the true lengths of all lines that we assis measuring, to the best of our skill and ability, and in accordance with instructions given us, in the re survey the west boundary & retracement of the N. bdy. of T. 22 S. R. of the S.L.B.& M., Utah.

Earl Harvey, Chainm
Jack Thomas, Chainm

Subscribed and sworn to before me this 3rd day of April, 1911

SEAL

Howard W. Miller
U.S. Transitman

~~WE~~ I, Roscoe Hallett ~~and~~
do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishme of corners, according to the instructions given ~~us~~ to the best of ~~our~~ my skill and ability, in the re survey the W. Bdy and retracement of the N. bdy. of T. 22 S. R. of the S.L.B.& M., Utah.

Roscoe Hallett, Moundman
, Moundman

Subscribed and sworn to before me this 3 day of April, 1911

SEAL

Howard W. Miller
U.S. Transitman

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

, Axman.
, Axman.

Subscribed and sworn to before me this day of , 19

SEAL

I, , do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of

, Flagman.

Subscribed and sworn to before me this day of , 19

SEAL

6—151

Resurvey of the South Bdy. of T. 22 S., R. 24 E.

Chains.

Survey commenced October 27, 1910 and executed with a W. & L. E. Gurley solar compass No. 10143. For description and test of instrument see Book "A" of this survey.

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

At my camp which is situated about 1½ miles S. of the cor. of secs. 1, 2, 35 & 36 on the N. bdy. of the tp. in approximate lat 38°55' 10" N., longitude 109°15' 18" W., I set off 38°55' N on the lat arc; 12°31' S. on the decl. arc; and at 4h 14m p.m. l. m. t., determine with the solar a meridian, and mark a point in the line thus determined, on a stone firmly set in the ground, 5 chs. N. of my station. At 7h 20m p.m., I unclamp the vernier plate, observe Polaris in accordance with instructions in the Manual, and mark the direction thus determined by a tack driven in a wooden peg set firmly in the ground, 5 chs. N. of my station. The reading of the horizontal limb at the instant of observation is 1° 17'

Astron. l.m.t. of obs. Oct. 27 - - - - - - - - - -		7h. 20m.
U.C. Polaris, Oct. 15 = 11h 53.5m.		
Red to Oct. 26. = 43.2		
U.C. Polaris Oct. 26 = 11h 10.3m	11	10.3
Hour angle of Polaris at observation	20	09.7
Subtract from.	23	56.1
Time argument for Table VII	3	46.4

Azimuth of Polaris at obs. = 1° 17'

Resurvey of the South Bdy of T. 22 S., R. 24 E.

Chains

October 27, 1910

October 28, 1910 At 7h 44m a.m. l.m.t.
I set off 38° 55' on the lat. arc 12° 55' S on the decl. arc and determine with the solar a meridian and find that this meridian coincides with the solar meridian of October 27, which point is 1° 17' W. of the meridian established by observations on Polaris.
Therefore I conclude that the adjustments of the instrument are satisfactory.
The magnetic bearing of the true mer. at 8h 05m a.m. is N 15° 45' W., the angle thus determined gives the magnetic decl. 15° 45' E.

I begin at the cor. of secs. 3, 4, 33 & 34 on the S. bdy. of the tp., and as no part of Ts 22 & 23 S., R. 24 E. east of this corner have been subdivided, I re-survey the tp. line between them as follows.
The cor. of secs. 3, 4, 33 & 34 is a sandstone 15 x 12 x 6 ins. lying on the ground, and marked as described by the Surveyor General. There are no traces of old accessories.
I destroy all traces of the old 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 cor. of secs. 3, 4, 33 & 34, marked on brass cap.

T 22 S R 24 E. on N. half,
T 23 S on S. half,
S 33 in NW.,
S 34 in NE.,
S 3 in SE., and
S 4 in SW., quadrant,

Resurvey of the S. bdy of T. 22 S., R. 24 E.

Chains.	
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
	Thence I run
	East, resurveying bet. secs. 3 & 34.
	Over rolling mountainous land draining N.
	Ascend 100 ft. to
7.00	Ridge, bears N. & S.
	Gradually descend 175 ft. to
30.50	Hollow, drains N.
	Ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 34 on N. half and S 3 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	From this point the old 1/4 sec. cor. which is a sandstone 20 × 15 × 4 ins. bears N. 40 lks. I destroy all traces of the old cor.
54.00	Spur, 80 ft. above hollow, projects N.
	Descend 25 ft. to
56.00	Wash, 5 lks. wide, 2 ft. deep, course NW.
	Thence gradually ascend over gently rolling land sloping N.
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 & 35, marked on brass cap

T 22 S R 24 E on N half,
T 23 S on S. half,
S 34 in NW.,
S 35 in NE.,
S 2 in SE. and
S 3 in SW. quadrant,

dig pits 24 × 24 × 12 ins. in each sec., NE., SE., SW., and NW of corner 5½ ft. dist., and raise a mound of

Resurvey of the South Bdy. of T. 22 S., R. 24 E.

chains	
	earth, 4 ft. base, 2 ft. high W. of cor. The old cor. which is a sandstone 15x10x5 ins., bas S 20 lks. I destroy cor. Land. Mountainous on W 56 chs, gently rolling on E 24 chs. with general N. slope. Soil rocky with rocky sub-soil, 4th rates. Undergrowth a short shadscale. Good grass for grazing. Mountainous land. 56 chs
	East, resurveying bet. secs. 2 & 35. Gradually ascend over rolling land sloping North.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap. 1/4 S 35 on N. half and S 2 on S. half; dig pits, 18 x 18 x 12 ins., E. and W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor. From this point the old 1/4 sec. cor. which is a sandstone 14 x 8 x 7 ins., bears S 75° E., 58 lks. dist. I destroy all traces of the old cor. Note. This cor is situated on the N. side of a knoll 50 ft. high and ridge, bearing N. & S. October 28: At this cor. I set off 13° 00' S. on the decl. arc; and at 11h 44m a.m. l.m.t. observe the sun on the mer., the resulting lat is 38° 51'. Descend abruptly over land facing E.
51.80	Wash in canyon, 25 lks. wide, 200 ft below ridge, course S. Ascend abruptly 100 ft. to
55.50	Rocky point of spur, projects SW. Gradually descend 50 ft. to
66.50	Gulch, 10 lks. wide, 10 ft. deep, drains S. Ascend 40 ft. to
70.30	Spur, projects S. Thence over rocky land on N. side of gulch.

Resurvey of the S. bdy of T. 22 S., R. 24 E.

Chains	
80.00	Set an iron post, 3 ft. long, 3 ins. in diam., (on account of natural obstacles I am unable to set post in ground, 24 ins.) in a mound of earth and stone 4 ft. base, 2 ft. high, for cor. of secs. 1, 2, 35 and 36, marked on brass cap T 22 S R 24 E on N. half T 23 S on S. half S 35 in NW., S 36 in NE., S 1 in SE. and S 2 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of Cor. Pits impracticable From this point the old cor. of secs. 1, 2, 35 and 36 which is a sandstone 30 x 20 x 10 ins, bears S 4° E., 2 chs. distant I destroy all traces of the old cor. W. 40 chs. gentle N. slope of rolling land. E 4 chs. mountainous land draining S. with steep E. & W. slopes of ridges Soil rocky and gravelly very poor sub-soil, rocky. Undergrowth a short chaparral Good grass for grazing on W. 40 chs.
	East, resurveying bet. secs. 1 & 36 over rocky mountainous land thru scattering cedar & pinon, along N. side of gulch
19.50	Gulch, 10 lks. wide, 2 ft. deep, drains SW 4 chs., thence West. Ascend.
40.00	Intersect the old 1/4 sec. cor. which is a sandstone 25 x 10 x 5 ins.

Resurvey of the S. bdy. of T. 22 S., R. 24 E.

Chains

marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. Set an iron post 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 36 on N. half and S 1 on S. half, from which

A cedar 11 ins. diam, bears S 2° E., 14 lks. dist., marked 1/4 S 1 B.T.

No other tree within limits, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.

62.00 Ridge, 125 ft. above gulch, bears N. and S.

Descend 75 ft. to

70.00 Gulch, 20 lks. wide, 5 ft. deep, drains S.

Gradually ascend 110 ft. to

80.00 The cor. of Ts 22 & 23 S., Rs. 24 & 25 E. which is a sandstone 14 x 12 x 10 ins. marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. Set an iron post, 3 ft. long, 3 ins. in dia., on account of natural obstacles I am unable to set post in ground, 24 ins. in a mound of earth and stone, 11 ft. base, 2 ft. high, for cor. of Ts 22 & 23 S., Rs. 24 & 25 E., marked on brass cap.

T 22 S on N half,
T 23 S., on S half,
R 24 E S 36 in NW.,
R 25 E S 31 in NE.,
R 25 E S 6 in SE and
R 24 E S 1 in SW. quadrant,

raise a mound of stone 3 ft. base, 2 ft. high. S. of cor.

Resurvey of the S. bdy. of T. 22 S., R. 2 E.

Chains.	
	Pits impracticable No trees within limits. Land, mountainous with a general S. slope and drain. Soil, rocky very poor. Sub-soil, rocky Undergrowth, short shadscale. Timber, scattering scrub cedar and pinon, some good grass for grazing purposes. Land mountainous and heavily timbered 80.00 chs

East bdy. of T. 22 S., R. 24 E.

chains	
	Survey commenced October 28, 1910 and executed with a W. & S. E. Gurley solar compass No. 1043. For description and test of instrument see book A. of this survey. I know the instrument to be in perfect adjustment by observations made on Polaris at my camp October 27, 1910.
	For solar observation see page 2. of these notes. From the cor. of Ts. 22 & 23 S., Rs. 24 & 25 E., heretofore described, I run North, on a random line along the E. bdy. of the tp. setting temporary 1/4 sec. and sec. cors. at intervals of 40 chs.
80.00	Cease work.
	October 28, 1911. Oct 29: At 9h 44m a.m. l.m.t. I set off 38° 52' on the lat arc; 13° 15' S. on the decl. arc, and determine a mer. with the solar at the temporary cor. of secs. 25, 30, 31 & 36. Thence I continue North, on random line
400.00	Act. 29: At this station I set off 13° 20' S. on the decl. arc; and at 11h 44m a.m. l.m.t. obs. the sun on the mer; the resulting lat. is 38° 55'.
485.97	Intersect N. bdy. of the tp. 7.41 chs S. 89° 49' W. of the cor. of T.s 21 & 22 S., Rs. 24 & 25 E., heretofore described. As this falling is out of limits, I set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for closing corner of T. 22 S., Rs. 24 & 25 E. marked on brass cap. T 21 S R 24 E S 36 R 25 E S 31 on N. half CCT 22 S R 24 E S 1 R 25 E S 6 on S half;

chains	
	dig pits, 30 x 24 x 12 ins., crosswise on each line, E. and W., 4 ft., and S. of post, 8 ft. dist.; raise a mound of earth 5 ft. base, 2½ ft. high S. of cor.
	I destroy all marks on old cor. pertaining to T. 22 S. Rs. 24 & 25 E.
	Thence I run
	South, bet. secs. 1 & 6.
	Gradually ascend over gently rolling land.
26.50	Wash, 5 lks. wide, 5 ft. deep, course NE.
32.80	Wagon road, bears NE. and SW.
45.97	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., marked on brass cap ¼ S 1 on W. half and S 6 on E. half, 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.
55.00	Base of ridge and ledge, bears E. and SW.
	Ascend 150 ft. to
66.50	Ridge, bears NE. and S. 30° W.
	Thence descend over land sloping SE
85.97	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 1, 6, 7 & 12. marked on brass cap.
	T 22 S on N. half R 24 E S 1 in NW., R 25 E S 6 in NE., S 7 in SE. and S 12 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of corner.
	Pits impracticable
	N. 55 chs. gently rolling land with gentle N. slope soil rich sandy loam with sub soil of sandy loam,

East bdy. of T. 22 S., R. 24 E.

Chains	
	1st rates. S 30.97 chs. NW. and SE. slopes of rocky ridge soil rocky. sub soil of solid bed rock. 4th rates Undergrowth sage brush. No timber. Mountainous land, 30.97 chs.
	South, bet. secs. 7 & 12. Over mountainous land. Descend abruptly over ledges
4.50	Base ledges and ridge, 150 ft. below sec. cor. brars NE. and SW. Thence gradually descend over land sloping SE.
18.60	Wagon road, bears NE. and S. 80° W.
19.00	Monte Morelands house bears S. 80° W 11 chs.
31.40	Coach Creek, 1 ch. wide, some good water, 3 lns deep, course W. Ascend.
40.00	Set an iron post, 3 ft. long, 1 in in dia., 26 lns. in the ground for 1/4 sec. cor. marked on brass cap. 1/4 S 12 on W. half and S 7 on E. half; dig pits; 18 x 18 x 12 lns. N. and S. of post, 3 ft. dist.; raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.
48.50	Spur, 75 ft. high, projects NE. Descend 50 ft. to
60.40	Wash, 10 lks. wide, 4 ft. deep, course N. 70° E. Ascend
65.60	Same wash, course NW.
66.20	Spur, 50 ft. high, projects E. Descend 75 ft. to
67.30	Same wash, course NE. Ascend.
75.50	Spur, 30 ft. high, projects W. Descend 75 ft. to
77.50	Same wash, course NW.
80.00	Set an iron post, 3 ft. long, 3 lns. in dia., 24 lns. in the ground

East bdy. of T. 22 S. R. 24 E.

chains.

for cor. of secs. 7, 12, 13 + 18, marked on brass cap.
T 22 S on N. half,
R 24 E S 12 m. NW.,
R 25 E S .7 m. NE.,
S 18 m. SE. and
S 13 m. SW., quadrant,
dig pits, 18 x 18 x 12 ins., in each sec., NE., SE., SW., and NW., of post, 5 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
Land, mountainous with SE slope on N. 31.40 chs. and NE. slope and drain on S 48.60 chs. Soil sandy loam and gravelly with sub-soil of rocks and gravel. Undergrowth short shadscale. No timber.

South, bet. secs. 13 + 18.
Over mountainous land through scattering forest of cedar + pinon.
6.00 Spur, 30 ft. high, projects W
Descend 50 ft. to
10.50 Wash, 10 lks. wide, 3 ft. deep, course NW.
Ascend 75 ft. to
18.40 Ridge, bears E. and W.
Descend 25 ft. to
19.00 Wash, 10 lks. wide, 3 ft. deep, course W. 4 chs., thence N 10° E.
Ascend
40.00 180 ft. above wash.
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap, 1/4 S 13 on W. half, and S 18 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
Pits impracticable
Continue to ascend
42.00 Top of West side of knoll on ridge

East bdy. of T. 22 S., R. 24 E.

Chains	
	75 ft. above 1/4 cor., brass E. and W.
	Descend SW. slope.
56.00	Wash in hollow, 20 lks. wide, 75 ft. below knoll, course N. 80° W.
	Ascend 100 ft. to
64.00	Ridge, brass E. and W.
	Descend 75 ft. to
70.30	Wash in hollow, 15 lks. wide, course N. 70° W.
	Begin to ascend
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 & 24. Marked on brass cap,
	T 22 S on N. half,
	R 24 E S 13 in NW.,
	R 25 E S 18 in NE.,
	S 19 in SE. and
	S 24 in SW. quadrant,
	dig pits, 18 x 18 x 12 ins., in each sec. 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of corner.
	Land, mountainous draining W with N. and S. slopes of ridges.
	Soil rocky and sandy, sub soil rocky 4th rates. Undergrowth, short chaparral. Timber, some scattering cedar & pinon.
	Mountainous land 80.00 chs.
	South, bet. secs. 19 & 24.
	Over mountainous land, ascend
14.10	Top of rocky spur at base of high ledges, 150 ft. above sec. cor. Projects W.
	Descend abruptly 125 ft. to
24.30	Wash in canyon, 50 lks. wide, course NW
	Thence up steep ascent 175 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia. on account of natural obstacles I am unable to set post in the ground, 26 ins., in a mound of earth and stone, 4 ft. base, 2 ft. high, for 1/4 sec. cor. Marked on brass cap

East bdy T. 22 S., R. 24 E.

Chains	
	1/4 S 24 on W. half and S 19 on E. half, raise mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Continue to ascend.
80.00	On top ridge, 125 ft. above 1/4 cor, brass N 80° W & E.
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 19, 24, 25 & 30, marked on brass cap
	T 22 S on N. half, R 24 E. S 24 in NW., R 25 E. S 19 in NE., S 30 in SE. and S 25 in SW., quadrant,
	raise a mound of stone, 2 ft. base, 1 1/2 ft. high, W. of cor.
	Pits impracticable.
	Land mountainous, N 24.30 chs. broken land draining W. S 55.70 chs. N slope of high ridge. Soil, rocky sub soil rocky, very poor. Undergrowth Shadscale. Some good grass for grazing. Mountainous land on 8000 chs.
	South, bet. secs. 25 & 30.
	Over mountainous land.
	Descend across top of ridge.
10.00	Begin step descent over ledges, brass E. and SW.
19.80	Wash in canyon, 50 lks. wide, 25 ft. below ridge, course SW.
	Ascend 75 ft. to
25.00	Spur, projects W.
	Descend 70 ft. to
29.40	Wash, 10 lks. wide, 3 ft. deep, course NW.
32.75	Same wash, course NE.
33.00	Same wash, course NW.
	Ascend 75 ft to

East bdy of T. 22 S., R. 24 E.

Chains	
38.00	Spur projects W. Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 25 on W. half and S. 30 on E. half; raise a mound of stone, 2 ft. base 1½ ft. high W. of cor. Pits impracticable
44.10	Wash, 10 lks. wide, 3 ft. dep, course NW. Ascend 100 ft. to
55.00	Ridge, bears E. and S. 80° W. Gradually descend
64.60	Begin steep descent over land facing SE.
75.00	Wash in hollow, 15 lks. wide, 200 ft. below ridge, course W. Ascend abruptly 100 ft. to
80.00	NW side of ridge, bears NE. and SW Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 25, 30, 31 & 36 marked on brass cap T 22 S on N half, R 24 E S 25 in NW., R 25 E S 30 in NE., S 31 in SE. and S 36 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Land mountainous draining SW with steep N. & S. slopes of ridges. Soil rocky 4th rates. Undergrowth, chaparral. Some grass for grazing purposes. Mountainous land, 80.00 chs
	South, bet secs. 31 & 36 over mountainous land. Ascend 50 ft. to

East bdy. of T. 22 S., R. 24 E.

chains.	
2.50	Top of ridge, bears NE. and SW. Thence gradually descend over land sloping nearly south.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lks. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 36 on W. half and S 31 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
62.30	Gulch, 20 lks. wide, 10 ft. deep, drains SW. Thence over land sloping W.
80.00	The cor. of Ts. 22 & 23 S., Rs. 24 & 25 E. heretofore described. Land, mountainous with a southwesterly drain. N. 250 chs NW. slope and S. 77.50 chs. general S. slope. Soil, rocky; sub soil, rocky; 4th rate. Undergrowth, short shadscale. Some good grass for grazing. No timber. Mountainous land 80.00 chs. October 29, 1910

Resurvey of the West boundary of T. 22 S., R. 24 E.

Survey commenced April 10, 1911 and executed with a W. & L. E. Gurley solar compass. No. 1043. For description and test of instrument see book "T" of this survey.

I examine the adjustments of the compass and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications, resulting from solar observations made during p.m. and a.m. hours with a

Resurvey of the West boundary of T. 22 S., R

Chains

meridian determined by observations on Polaris, I proceed as follows: at my camp which is situated near the center of sec. 15, T. 22 S., R. 23 E. in approximate lat. 38° 54' N., longitude 109° 23' 33" W., I set off 38° 54' on the lat. arc; 7° 50' N., on the decl. arc; and at 4h. 32m. p.m. l.m.t., determine with the solar a meridian and mark a point thereof, on a stone firmly set in the ground, 5 chs. N. of my station.

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

Astron. time of obsn. April 10, 1911 8h. 00.0m.
U.C. Polaris April 1, 1911 0h. 51.2m.
Reduced to April 10 35.5
Astron time U.C. Polaris April 10 = 0° 15.7m. 0h. 15.7m.
Time argument 7h. 44.3m.
Azimuth of Polaris at obsn = 1° 19½' W.
April 10, 1911

April 11: At 7h. 01m. a.m. l.m.t., I lay off the azimuth of Polaris 1° 19½' to the east and find that this mark coincides with the solar meridian of April 10th.

At 7h. 31m. a.m. l.m.t., I set off 38° 54' on the lat. arc; 8° 05m. N., on the decl. arc; and determine a meridian with the solar, which meridian also coincides with the Polaris meridian and solar meridian of April 10. I therefore conclude that the adjustments of the instrument

Resurvey of the West boundary of T. 22 S., R. 24 E.,

chains

are satisfactory.
The magnetic bearing of the true meridian at 7h. 45m. a.m. is N. 15° 45' W., the angle thus determined gives the magnetic decl. 15° 45' E.

From the cor. of secs. 19, 24, 25 and 30 heretofore described.
I run
South on a blank line bet. secs. 25 and 30 and at 40.00 chs., I am unable to find any trace of the 1/4 sec. cor., therefore, I continue my line south making careful search for 1/4 sec. and sec. cors., and at 160.00 chs. intersect the cor. of Ts. 22 and 23 S., Rs. 23 & 24 E. I now resurvey the range line as follows:
Note: This range line forms a part of the Grand River Guide Meridian and 2 sets of chainmen are required. Being unable to hire extra assistants at this moment and not having extra men capable of doing accurate chaining, I resurvey this line with one set of chainmen.
The old cor. of Ts. 22 & 23 S., Rs. 23 & 24 E., is a sandstone, 40 x 15 x 9 ins., firmly set in a mound of stone, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of Ts. 22 & 23 S., Rs. 23 & 24 E., marked on brass cap

T 22 S on N. half,

Resurvey of the West boundary of T. 22 S., R. 24 E.

Chains.	
	T 23 S on S. half, R 23 E S 36 in NW., R 24 E S 31 in NE., R 24 E S 6 in SE. and R 23 E S 1 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high S. of cor. Pits impracticable. Thence I run. North, resurveying bet. secs. 31 & 36. Over rough rocky land. Descend 100 ft. to
4.30	Hollow, drains NE. Ascend abruptly over ledges, 100 ft. to
10.50	Spur, projects NE. Descend abruptly.
26.40	Hollow, 110 ft. deep, drains W. Ascend abruptly.
32.00	Spur, 140 ft. above hollow, projects W. Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lbs. in the ground for reestablished 1/4 sec. cor., marked on brass cap 1/4 S 36 on W. half and S 31 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. No trace of the old 1/4 sec. cor. can be found.
46.20	Hollow, 125 ft. below spur, drains NE. Ascend abruptly
53.25	Ridge, 150 ft. above hollow, bears NE. and SW. Enter scrub cedar & pinon timber bears NE. & SW. Descend.

Resurvey of the West boundary of T. 22 S., R. 24 E

Chains	
	No trace of old cor. can be found.
48.15	Wash in hollow, 25 lks. wide, 5 ft. deep, drains NE. 2 chs., thence E. Ascend 125 ft. to
75.00	Low ridge, brans E. + W. Descend
80.00	The cor. of secs. 19, 24, 25 + 30 heretofore described. Land, mountainous draining E. Soil, rocky with rocky sub-soil; 4th. rate. Undergrowth some short shadscale No timber. Land mountainous or covered with dense undergrowth 8000 chs. April 10, 1911

April 4: 1911: For solar observation see line bet secs. 20 and 29. page 65 book "T" of this survey.
From the cor. of secs. 19, 24 25 + 30 I run
North, retracing along the W. bdy. of the tp. making careful search at intervals of 40.00 chs. for 1/4 sec. and sec. cors. but am unable to find any, and at 326.54 chs. intersect E. + W. line 11.97 chs. N. 89° 30' W., of the cor. of Ts 21 + 22 S., Rs. 23 + 24 E. As no part of T 22 S., Rs 23 + 24 E. north of the cor. of secs. 19, 24, 25 and 30 have been subdivided, I resurvey the range line bet. them as follows:
From the cor. of secs. 19, 24, 25 + 30 I run
North, resurveying bet. secs. 19 + 24 gradually descend over hilly land sloping NE.

Resurvey of the west boundary of T. 22 S., R. 24 E.

chains	
72.00	Leave timber, bears E. & W.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins in the ground for reestablished cor. of secs. 25, 30, 31 and 36, marked on brass cap T 22 S on N. half, R 23 E S 25 in NW., R 24 E S 30 in NE., S 31 in SE. and S 36 in SW. quadrant raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable No trace of the old sec. cor. can be found. Land, mountainous draining NE. Soil, rocky, with rocky sub-soil; 4 th. rate. Timber, cedar & pinon on 18.75 chs. No undergrowth. Land mountainous or heavily timbered 80.00 chs.
	North, resurveying bet. secs. 25 & 30 gradually descend over rough rocky land sloping NE.
10.55	Hollow, 50 ft. deep, drains N. 75° E. Ascend 75 ft. to
34.00	Ridge, bears E. & W. Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for reestablished 1/4 sec. cor., marked on brass cap 1/4 S 25 on W. half, and S 30 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable

Resurvey of the west boundary of T. 22 S., R. 24 E.

chains.	
12.15	Hollow, 50 ft. deep, drains NE. Ascend 50 ft. to
16.50	Ridge, bears NE. and SW. Descend 60 ft. to
19.30	Hollow, drains NE. Ascend 50 ft. to
23.50	Spur, projects NE. Descend abruptly 60 ft. to
25.00	Leave hilly land, enter level land and dense undergrowth of greasewood., bears NE. & SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for reestablished 1/4 sec. cor., marked on brass cap 1/4 S 24 on W. half, and S 19 on E. half, dig pits. 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor. No trace of the old 1/4 sec. cor. can be found. April 4: At this 1/4 sec. cor. I set off 5° 35' N. on the decl. arc; and at 12h. 03m. p.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 53'.
48.20	Sagers wash, 1 ch. wide, 20 ft. deep, course E. 10 chs., thence SE. Leave greasewood, gradually ascend over rolling land sloping SW.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for reestablished cor. of secs. 13, 18, 19 & 24, marked on brass cap T 22 S on N. half, R 23 E S 13 in NW., R 24 E S 18 in NE., S 19 in SE. and

Resurvey of the west boundary of T. 22 S., R. 24 E

Chains.	
	S 24 in SW. quadrant, dig pits, 24 x 24 x 12 ins., in each sec., 5½ ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. No trace of the old sec. cor. can be found. S. 25 chs., hilly land facing NE. N. 55 chs., gently rolling land with gradual S. slope. Soil, clay on hard dry clay sub-soil; 3rd. rate. Undergrowth, dense greasewood on 23.20 chs. No timber
	North, resurveying bet. secs. 13 & 18. Gradually ascend over gently rolling land sloping S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for reestablished ¼ sec. cor., marked on brass cap ¼ S 13 on W. half and S 18 on E. half, dig pits, 18 x 18 x 12 ins., N. + S. of post, 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor. No trace of the old ¼ sec. cor. can be found.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for reestablished cor. of secs. 7, 12, 13 and 18, marked on brass cap T 22 S on N. half, R 23 E S 12 in NW., R 24 E S 7 in NE., S 18 in SE. and S 13 in SW. quadrant, dig pits, 24 x 24 x 12 ins., in each

chains	
	sec. 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. No trace of the old sec. cor. can be found. Land, gently rolling with gentle S. slope. Soil, clay, on hard clay sub-soil; 2nd rate. No Undergrowth. No timber
	North, resurveying bet. secs. 7 & 12. Over rolling land draining SE. Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for reestablished 1/4 sec. cor., marked on brass cap 1/4 S 12 on W. half, and S 7 on E. half, dig pits. 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor. No trace of the old 1/4 sec. cor. can be found. April 4, 1911. April 5; at 8h. 03m. a. m. l. m. t, I set off 38° 55' on the lat. arc; 5° 55' N., on the decl. arc; and determine a meridian with the solar at this cor. Thence I run North.
62.00	Wash, 5 lks. wide, 5 ft. deep, drains SE.
77.50	Old wagon road, bears N. 20° W. and S. 20° E.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for

Resurvey of the West boundary of T. 22 S., R. 24 E

Chains.	
	reestablished cor. of secs. 1, 6, 7 and 12, marked on brass cap T 22 S on N. half, R 23 E S1 in NW., R 24 E S6 in NE., S7 in SE. and S12 in SW. quadrant, dig pits 24 x 24 x 12 ins., in each sec. 5½ ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. No trace of the old sec. cor. can be found. Land, rolling with SE. slope Soil, clay on clay sub-soil; 2nd. rate Undergrowth, some short shadscale No timber
	North, resurveying bet. secs. 1 & 6. Over rolling land draining E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for reestablished 1/4 sec. cor., marked on brass cap 1/4 S1 on W. half and S6 on E. half, dig pits 18 x 18 x 12 ins., N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor. No trace of the old 1/4 sec. cor. can be found.
1/2.15	Wash, 10 lks. wide, 5 ft. deep, course NE.
1/4.20	Wash, 7 lks. wide, 7 ft. deep, course E.
	Gradually ascend 75 ft. to
68.00	Low ridge, bears E. and W.
	Descend 25 ft. to

Resurvey of the west boundary of T. 22 S., R. 24 E.

Chains.	
72.00	Wash, 5 lks. wide, 3 ft. deep, course N. 70° E.
	Ascend 50 ft. to.
86.54	Intersect E. & W. line 11.97 chs. N. 89° 30' W. of the cor. of Ts. 21 & 22 S., Rs. 23 & 24 E., which is a sandstone 15×8×5 ins., with marks nearly obliterated and witnessed by a mound of stone S. of cor. As a closing tp. cor. is necessary for T. 22 S., Rs. 23 & 24 E., I destroy all traces of the old tp. cor. and reestablish it at the same point for cor. of T. 21 S., Rs. 23 & 24 E. as follows:
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of T. 21 S., Rs. 23 & 24 E., marked on brass cap:
	T 21 S on N. half,
	R 23 E S 36 in NW. and
	R 24 E S 31 in NE. quadrant,
	dig pits, 30 × 24 × 12 ins. on each line, E. & W. 4 ft., and N. of post 8 ft. dist., raise a mound of earth 5 ft. base, 2½ ft. high, N. of cor.
	At my intersection with the township line, 11.97 chs. N. 89° 30' W. of the cor. of T. 21 S., R. 23 & 24 E. I set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for closing cor. of T. 22 S., Rs. 23 & 24 E., marked on brass cap.
	T 21 S R 23 E S 36 R 24 E S 31 on N. half.
	CC T 22 S R 23 E S 1 R 24 E S 6 on S. half,
	dig pits, 30 × 24 × 12 ins. on each line, E. & W. 4 ft. and S. of post 8 ft. dist., raise a mound of earth, 5 ft. base, 2½ ft. high S. of cor.

Resurvey of the west boundary of T. 22 S., R. 24 E.

Chains	
	Land, rolling hilly. Soil, clay and gravelly; 3rd rate Sub-soil, clay. Undergrowth, shadscale.
	Resurvey of the north boundary of T. 22 S., R. 24 E. From the cor. of T. 21 S., Rs. 23 & 24 E. heretofore described I run: East, retracing line bet. secs. 6 & 31.
38.17	No trace of the witness cor. to the 1/4 sec. cor. can be found.
78.00	Fall 14 lks. N. of the cor. of secs. 5, 6, 31 and 32 which is a sandstone 15 x 6 x 4 ins., above ground, firmly set, and marked and witnessed as described by the Surveyor General. Having already closed upon the N. bdy. of the Tp. and knowing that closing corners are necessary, I destroy all traces of the old cor. and reestablish it at the same point for sec. cor. to secs. 31 & 32 T. 21 S., R. 24 E. Set an iron post, 3 ft. long; 3 ins. in dia.; 24 ins. in the ground, for cor. of secs. 31 & 32, marked on brass cap T 21 S R 24 E on N. bay, S 31 in NW. and S 32 in NE. quadrant, 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 N. of cor. Thence I run: N. 89° 54' W., resurveying line bet. secs. 6 & 31. Over hilly land draining N.
12.75	Gulch, draining N.
	Ascend 50 ft. to
17.30	Ridge, bears N. & S.,
	Descend 75 ft. to

Resurvey of the north boundary of T. 22 S., R. 24 E.

Chains.	
39.00	Point for 1/4 sec. cor. falls in wash 10 lks. wide, 2 ft. deep, course SW.
39.50	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for wit ness cor. to the 1/4 sec. cor., marked on brass cap. T 21 S R 24 E S 31 on N. half, T 22 S S 6 on S. half, with W. C. 1/4 to the east, dig pits, 18 x 18 x 12 ins., E. & W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor. April 5: At this wit ness cor. I set off 5° 53' N., on the decl. arc; and at 12h 03m p.m. l.m.t., observe the sun on the meridian the resulting lat. is 38° 56'.
40.00	Cisco wash, 1 ch. wide, 12 ft. deep, course S. 20° E. Thence ascend over land sloping SE., across numerous small spurs and ravines.
78.00	The cor. of T. 21 S., Rs 23 & 24 E. Land hilly, draining NW. to Cisco wash on E. 39.50 chs., and SE. to same wash on West 38.50 chs. Soil, clay; 3rd. rate. Sub-soil, clay. Underg rowth, short shadscale.

Retracement of the north boundary of T. 22 S., R. 24 E.

From the cor. of secs. 31 and 32 on the north boundary of the tp., heretofore described

Drum

East, retracing line bet. secs. 5 and 32.

Retracement of the north boundary of T. 22 S., R. 2

Chains	
	Over hilly land draining NW.
35.00	Wagon road from Cisco, Utah to Dewey, Utah, bears N. 20° W., and S. 20° E.
40.17	Fall 3 lks. N. of the 1/4 sec. cor., which is a sandstone, 10 x 8 x 4 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old 1/4 sec. cor., and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 32 on N. half and S 5 on S. half, dig pits, 18 x 18 x 12 ins., E. & W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor. The true bearing of this line is S. 89° 57' E., and the distance is 40.17 chs. From the 1/4 sec. cor. I continue East.
4.50	Low ridge, bears N. & S. Descend 100 ft. to
18.75	Wash, 5 lks. wide, 5 ft. deep, drains NE.
40.05	Fall 11 1/2 lks. south of the cor. of secs. 4, 5, 32 and 33 which is a sandstone 12 x 9 x 3 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 3 ins. in

Chains.	
	dia., 24 ins. in the ground for cor. of secs. 32 & 33, marked on brass cap. T 21 S R 24 E on N. half, S 32 in NW. and S 33 in NE. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor. Pits impracticable. Land hilly with general N. slope Soil, gravelly and clay, 3rd rate Sub-soil, gravelly. Undergrowth a short chaparral. The true bearing of this line is N. 89° 50' E., and the distance is 40.05 chs.
	East, retracing line bet. secs. 4 & 33. Over hilly land draining N. Ascend 20 ft. to
1.00	Ridge, bears N. & S. Gradually descend over land sloping E.
22.45	Road to Anderson's ferry, bears NE. and SW.
39.97	Fall 5 lks. S. of the 1/4 sec. cor. which is a sandstone 18 x 10 x 3 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor and reestablish it at the same point as follows. Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 33 on N. half and S 4 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post. 3 ft. dist., and raise a mound of earth, 3½ ft.

Retracement of the N. bdy. of T. 22 S., R. 24

Chains	
	base, 1½ ft. high N. of cor
	The true bearing of this line is
	N. 89° 56' E., and the distance is
	39.97 chs.
	From the 1/4 cor. I continue
	East.
6.35	Wash, 30 lks. wide, 2 ft. deep, course N.
	Begin ascent over land facing W.
13.60	Enter solid sandstone bed rock, bears N. & S.
20.65	Leave solid sandstone bed rock, bears N. & S.
31.00	Top of ridge, 100 ft. above wash, bears N. 70° E.
	and S.W.
	Thence descend over land facing SE.
40.56	The cor of secs. 3, 4, 33 & 34 which is
	a limestone 20 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 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
	cor. of secs. 33 & 34, marked on
	brass cap.
	T 21 S R 24 E on N. half,
	S 33 in NW. and
	S 34 in NE. quadrant,
	raise a mound of stone, 2 ft. base,
	1½ ft. high N. of Cor.
	Pits impracticable.
	The true bearing of this line is East,
	and the distance is 40.56 chs.
	Land mountainous, with general
	N drain on W 7.1 chs. and SE.
	drain on E. 9.56 chs. Soil rocky and
	an alkali clay, 4th rate, sub-soil
	clay & rocky. Undergrowth a
	short Shadscale Mountainous land 8.053 chs.
	April 5-1911

Retracement of the N. Bdy. of T. 22 S., R. 24 E

chains	
	November 12, 1910; for solar observation, see line bet. secs. 3 & 4.
	East, retracing line bet. secs. 3 & 34.
	Descend over rocky land sloping SE; 150 ft. to
13.00	Wash, 25 lks. wide, 6 ft. deep, course S.
	Begin to ascend.
17.00	Wagon road from Cisco, Utah to Anderson's ferry, bears N. & S.
40.02	On top, low ridge bears N. & S.
	Fall 2 lks S. of the 1/4 sec. cor. which is a limestone 10 x 10 x 5 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
	I destroy all traces of the old cor and reestablish it at the same point as follows:
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S. 34 on N. half and S 3 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
	Pits impracticable
	The true bearing of this line is, N. 89° 58' E., and the distance is 40.02 chs.
	From the 1/4 sec. cor. I continue East.
	Gradually descend over land sloping nearly east.
40.17	Fall 9 lks. S. of the cor of secs. 2, 3, 34 & 35 which is a sandstone 10 x 8 x 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and re-establish it at the

Chains

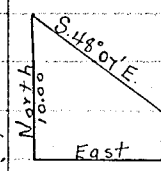
same point as follows:
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 34 & 35, marked on brass cap
T 21 S R 24 E. on N. half,
S 34 in NW., and
S 35 in NE. quadrant,
raise a mound of stone, 2 ft. base, 1½ ft. high, N. of corner.
Pits impracticable
The true bearing of this line is N. 89° 52' E and the distance is 40.17 chs.
Land mountainous with general S. drain and E. and W. slopes.
Soil, rocky 4th rate. Sub-soil rocky.
Undergrowth, short shadscale
Mountainous land 80.19 chs.

East, retracing line bet. secs. 2 & 35.
Gradually descend towards Grand river.

31.02 Fall 9 lks. S. of the meander cor of fractional secs. 2 & 35 on the right bank of Grand river which is a sandstone 10 × 10 × 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and reestablish it at the same point as follows:
Set and iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for meander cor. of fracl. secs. 2 & 35 marked on brass cap.
T 21 S R 24 E S 35 on N. half
T 22 S R 24 E S 2 on S. half,
with ME to the east, raise a mound of stone, 2 ft. base, 1½

Chains.

ft. high W. of cor.
Pits impracticable.
The true bearing of this line is N. 89° 50' E., and the distance is 31.02 chs.
From this cor. the meander cor. and witness cor. to the 1/4 sec. cor. on the left bank of Grand river bears East.
To determine the distance across river, I set a flag at cor. on left bank, then measure a base, N. 10 chs. to a point from which flag bears S. 48° 07' E., from the flag the N. End of the base bears N. 48° 07' W.



Therefore tan 48° 07' x base or 1.115 x 10 = 11.15 chs. the distance across, which added to 31.02 chs makes =
42.17 To left bank of grand river and meander cor. and witness cor to the 1/4 sec. cor. which falls in river
Nov 5: For solar observation see line brt. secs 1 & 2.
The meander cor. and witness cor to the 1/4 sec. cor. on the left bank of Grand river is a sandstone, 20 x 6 x 4 ins. marked and witnessed as described by the Surveyor General.
I destroy all traces of the old cor. and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for meander cor. and witness cor. to the 1/4 sec. cor. marked on brass cap
T 21 S R 24 E S 35 on N half,
T 22 S R 24 E S 2 on S half,
with W C 1/4 M C. to the west,
and raise a mound of stone

Chains

2 ft. base, 1½ ft. high E. of cor.
Pits impracticable.
Thence I run
East, retracing from the meander Cor.
Ascend.
8.00 Top of ridge, 100 ft. above meander cor., brass N. & S.
Thence over hilly land sloping N.
36.87 Fall 2 lks. S. of the cor. of secs. 1, 2, 35 & 36 which is a sandstone 10 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 cor. and reestablish it at the same point as follows.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 35 & 36, marked on brass cap.

T 21 S. R 24 E. on N. half,
S 35 in NW. and
S 36 in NE. quadrant,

raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
Pits impracticable
The true bearing of this line is N. 89° 58' E., and the distance is 36.87 chs.
Land mountainous, with general SE slope on W. 31 chs. and N. slope on E. 36.87 chs. Soil, gravelly and rocky. 4th rates. Undergrowth, chaparral, some willow on river bank. Mountainous land 67.89 chs.

East, retracing bet secs. 1 & 36.
Over hilly land draining N.
17.50 Wash, 20 lks. wide, 3 ft. deep, course NW

Retracement of the N. bdy. of T. 22 S., R. 24 E.

Chains	
18.00	Wash, 10 lks. wide, 3 ft. deep, course NW.
	Ascend 50 ft. to
25.00	Ridge, bears N. & S.
	Thence over rolling land
40.04	Fall 13 lks. S. of the 1/4 sec. cor. which is a sandstone 10 x 8 x 6 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and restablish it at the same point as follows.
	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 36 on N. half and S 1 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable.
	The true bearing of this line is N. 89° 49' E., and the distance is 40.04 chs.
	From the 1/4 sec. cor. I continue East.
40.08	Fall 13 lks. S. of the cor. of T. 21 S., Rs. 24 & 25 E. heretofore described.
	The true bearing of this line is N. 89° 49' E. and the distance is 40.08 chs.
	Land hilly with general north drain and slopes. Soil gravelly and sandy loam. 1st rate sub soil sandy loam and gravelly. Undergrowth sage brush.
	Good agricultural land on E. 40.00 chs.
	November 5, 1910

Boundaries of T. 22 S., R. 24 E.

Latitudes, Departures and closing errors.

Lines designated	True Bearing	Distance	Latitudes N.	Latitudes S.	Departures E.	Departures W.
East Bdy.	South	485.97		485.97		
S. Bdy	West	240.00				240.00
W. Bdy sec. 34	No° 47' W	38.51	38.51			.53
	No° 27' E	40.00	40.00		.31	
W. Bdy sec 27	No° 17' W	40.45	40.45			.20
"	No° 20' W	40.70	40.70			.24
S. Bdy sec. 21	S. 88° 36' W	81.40		1.98		81.37
S Bdy 20	N 89° 57' W	80.22	.07			80.22
S Bdy 19	N 88° 57' W	80.46	1.45			80.45
West Bdy	North	326.54	326.54			
N Bdy.	S 89° 30' E	11.97		.09	11.97	
sec 6	S. 89° 54' E	78.00		.14	78.00	
sec 5	S 89° 57' E	40.17		.03	40.17	
"	N 89° 50' E	40.05	.12		40.05	
Sec 4	N 89° 56' E	39.97	.05		39.97	
"	East	40.56			40.56	
Sec 3	N 89° 58' E	40.02	.02		40.02	
"	N 89° 52' E	40.17	.09		40.17	
Sec 2.	N 89° 50' E	31.02	.09		31.02	
"	East	11.15			11.15	
"	N 89° 58' E	36.87	.02		36.87	
Sec 1	N 89° 49' E	40.04	.13		40.04	
	N 89° 49' E	32.67	.11		32.67	
Convergency.					.49	
			488.35	488.21	485.95	483.01
			488.21		483.01	
Errors			.14		9.14	

For General Description see book "T" of this survey

Howard W Miller
U.S. Transitman

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Page

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller, Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the E. bdy., resurvey of the S. bdy and retracement of the N. bdy. of T. 22 S. R 24 E. showing the respective capacities in which they acted:

..., Chainman.

..., Chainman.

..., Moundman.

..., Moundman.

..., Axman.

Edward Jones, Axman.

..., Flagman.

FINAL OATH OF ASSISTANTS.

~~We~~ I hereby certify that ~~we~~ I assisted Howard W. Miller, Transitman, United States ~~Deputy Surveyor~~, in surveying all those parts or portions of the E. bdy., resurvey of the south bdy. and retracement of the N. bdy. of T. 22 S., R 24 E ... of the Salt Lake Base & meridian, State of Utah, which are represented on the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of ~~our~~ my knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah

..., Chainman.

..., Chainman.

..., Moundman.

..., Moundman.

Edward Jones, Axman.

..., Axman.

..., Flagman.

Subscribed and sworn to before me this 4 day of November, 1910

SEAL

Howard W. Miller
U. S. Transitman

6—151

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, ..., United States Deputy Surveyo
solemnly swear that, in pursuance of a contract received from .....
United States Surveyor General for ....., bearing date o
..... day of ....., 190 , I have well, faithfully, and truly, in my
proper person, and in strict conformity with the instructions furnished by the United States Surv
General for ....., the Manual of Surveying Instructions, and the laws o
United States, surveyed all those parts or portions of .....
.....
.....
..... of the .....
..... meridian, in the ..... of ....., which are represented i
foregoing field notes as having been surveyed by me, and under my direction; and I do further sole
swear that all the corners of said survey have been established and perpetuated in strict accordance
the Manual of Surveying Instructions, and the special written instructions of the United States Surv
General for ..... and in the specific manner described in the field notes, and
the foregoing are the original field notes of such survey.

.....
United States Deputy Surv

Subscribed by said ....., and sworn to before me
this ..... day of ....., 190

SEAL

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 1

The foregoing field notes of the survey of .....
.....
.....
.....
.....
.....
executed by .....
under his contract No. ....., dated ....., 190 , having
critically examined, and the necessary corrections and explanations made, the said field notes, an
surveys they describe, are hereby approved.

.....
United States Surveyor Ge

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

.....
United States Surveyor Ge

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller Transitman., United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the E. bdy. resurvey of the S. bdy and retracement of the N. bdy of T. 22 S. R. 24 E. of the S.L.B.& M., Utah, showing the respective capacities in which they acted:

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe C. Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Egle, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller Transitman., United States ~~Deputy Surveyor,~~ in surveying all those parts or portions of the East bdy, resurvey of the south bdy. and retracement of the N. bdy. of T. 22 S., R. 24 E.

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

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe C. Hallett, *Moundman.*
, *Moundman.*
, *Axman.*
, *Axman.*
Ben Egle, *Flagman.*

Subscribed and sworn to before me this 12 day of November, 1910

SEAL

Howard W. Miller
U. S. Transitman

6-161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, ..., United States Deputy Surveyor, solemnly swear that, in pursuance of a contract received from ..... United States Surveyor General for ....., bearing date of t ..... day of ....., 190 , I have well, faithfully, and truly, in my ov proper person, and in strict conformity with the instructions furnished by the United States Survey General for ....., the Manual of Surveying Instructions, and the laws of t United States, surveyed all those parts or portions of .....

.....

.....

.....

..... of the .....

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

.....

United States Deputy Survey

Subscribed by said ....., and sworn to before me this ..... day of ....., 190

.....

.....

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 190

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

.....

.....

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.....

.....

.....

executed by .....

under his contract No. ....., dated ....., 190 , having be critically examined, and the necessary corrections and explanations made, the said field notes, and t surveys they describe, are hereby approved.

.....

United States Surveyor Gener

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

.....

United States Surveyor Gener

BOOK A-379

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the resurvey of the W. Bdy. and retracement of the N. bdy. of T. 22 S., R. 24 E of the S.L.B.& M., Utah, showing the respective capacities in which they acted:

Earl Harvey, *Chainman.*
Jack Thomas, *Chainman.*
Roscoe Hallett, *Moundman.*
, *Moundman.*
, *Axman.*
, *Axman.*
, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller, United States ~~Deputy Surveyor~~ Transitman, in surveying all those parts or portions of the resurvey of the W. bdy and retracement of the N. bdy of T. 22 S., R. 24 E., of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Earl Harvey, *Chainman.*
Jack Thomas, *Chainman.*
, *Moundman.*
Roscoe Hallett, *Moundman.*
, *Axman.*
, *Axman.*
, *Flagman.*

Subscribed and sworn to before me this 5 day of April, 19 11.

SEAL

Howard W Miller
U. S. Transitman

6—151

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oath of transitman see book "Y" T. 25 S., R. 26 E.

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

_____
United States Deputy Surve

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

SEAL

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25, 19

The foregoing field notes of the survey of the East, resurvey of the South an
West, and retracement of the North Boundaries of Township No. 22
South, Range No. 24 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller
under his ~~contract No.~~ special instructions, dated August 6, 1910, ~~19~~, having
critically examined, and the necessary corrections and explanations made, the said field notes, an
surveys they describe, are hereby approved.

_____
United States Surveyor Ge

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

_____
United States Surveyor Ge

6—151

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Page

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Page

4—679.

Book "T."

BOOK A-379

FILED
JAN 27 1912

M. S. B.

FIELD NOTES

OF THE SURVEY OF THE

Subdivision,
Retracement and Resurvey of
subdivision and Meanders of
T. 22 S R. 24 E.

Of the Salt Lake Base & Meridian,
Utah

AS SURVEYED BY

Howard W Miller, United States ~~Deputy Surveyor,~~ Transitman

Under his ~~Contract~~ Assignment Group No. 4, dated August 6, 1900

Survey commenced October 30, 1900

Survey completed April 10, 1901

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BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

1910.
Fred Wright, chainman
Karl Rothermund, chainman
Roscoe C. Hallett, moundman
Edward Jones, axman
Ben Eigle, flagman
1911.
Earl Harvey, chainman
Jack Thomas, chainman
Roscoe Hallett, moundman

6—161

BOOK A-379

INDEX DIAGRAM.

Township 22 South, *Range* 24 East

6 58	59 5 57	48 4 47	40 3 38	28 2 24	12 1 11
7 55	56 8 54	46 9 45	37 10 36	25 11 23	10 12 9
18 52	53 17 49	44 16 41	34 15 33	21 14 20	8 13 7
19 68	51 20 67	42 21 64	31 22 18	19 23 17	6 24 5
30	29	28	61 27 15	16 26 14	3 25 2
31	32	33	61 34	13 35	1 36

Meanders Page 70 to 80
" Island sec 3; 80-81

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PRELIMINARY OATHS OF ASSISTANTS.

WE, Fred Wright and Karl Rotherminud

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

subdivision resurvey and retracement of subdivision & M of T. 22 S R 24 E. S.L.B.& M. Utah.

Fred Wright, Chain

Karl Rotherminud Chain

Subscribed and sworn to before me this 30 day of October, 1910.

Howard W Miller
U.S. Transitman

SEAL

I WE, Roscoe C. Hallett ~~and~~

do solemnly swear that ~~we~~ will well and truly perform the duties of moundman in the establis of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the sur

subdivision, resurvey & retracement of subdivision & M of T. 22 S, R. 24 E. S.L.B.& M. Utah.

Roscoe C. Hallett, Moun

, Moun

Subscribed and sworn to before me this 30 day of October, 1910.

Howard W Miller
U.S. Transitman

SEAL

I ~~WE~~, Edward Jones ~~and~~

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

subdivision, resurvey & retracement of subdivision & mea of T. 22 S., R. 24 E S.L.B.& M. Utah.

Edward Jones, A

, A

Subscribed and sworn to before me this 30 day of October, 1910.

Howard W Miller
U.S. Transitman

SEAL

I, Ben Eagle, do solemnly swear that I will well an perform the duties of flagman according to instructions given me, to the best of my skill and ability survey of subdivision, resurvey and retracement of subdivisi meanders of T. 22 S, R 24 E. S.L.B.& M. Utah

Ben Eagle, Fl

Subscribed and sworn to before me this 30 day of October, 1910.

Howard W Miller
U.S. Transitman

SEAL

6—151

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6—151

PRELIMINARY OATHS OF ASSISTANTS.

WE, Earl Harvey and Jack Thomas

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of the subdivision & resurvey of subdivision & meanders of T. 22 S. R. 24 E. of the S.L.B.& M., Utah.

Earl Harvey, Chainman

Jack Thomas, Chainman

Subscribed and sworn to before me this 3 day of April, 1911.

SEAL

Howard W. Miller
U. S. Transitman

9

~~WE,~~ Roscoe Hallett ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishment of corners, according to the instructions given ~~us~~ me, to the best of ~~my~~ skill and ability, in the survey of subdivision resurvey of subdivision & meanders, of T. 22 S. R. 24 E. of the S.L.B.& M., Utah.

Roscoe Hallett, Moundman

, Moundman

Subscribed and sworn to before me this 3 day of April, 1911.

SEAL

Howard W. Miller
U. S. Transitman

WE, and

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

, Axman

, Axman

Subscribed and sworn to before me this day of, 19

SEAL

I, , do solemnly swear that I will well and truly perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of

, Flagman

Subscribed and sworn to before me this day of, 19

SEAL

6—151

Subdivision of T. 22 S., R. 24 E.

Chains.

Survey commenced October 30, 1911 and executed with a W. & L. E. Gurley Solar compass No. 1043. For description and test of instrument see book "A" of this survey. Having observed Polaris at my camp and knowing that I have a true meridian established, I test the solar apparatus as follows.

October 30: I place my transit upon the true meridian and at 8h 14m a. m. l. m. t. I set off 38° 55' on the lat. arc; 13° 37' S. on the decl. arc; and determine a meridian with the solar; this meridian coincides with the Polaris meridian of October 27, 1911.

At 3h 14m p. m. l. m. t. I set off 38° 55' on the lat. arc; 13° 14' S. on the decl. arc; and determine a meridian with the solar and find also that this meridian agrees with the Polaris.

My solar apparatus by a. m. and p. m. observations defines positions that agree with the Polaris meridian. I therefore conclude that the instrument is in perfect adjustment.

October 31: At 4h 14m a. m. l. m. t. I set off 38° 51' on the lat. arc; 13° 55' S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 1, 2, 35 and 36 on the S. bdy. of the Tp. heretofore described.

Thence I run

N. 0° 01' W., bet. secs. 35 & 36.

Ascend over rough rocky land sloping S.

Subdivision of T. 22 S., R. 24 E.

Chains

19.50 Ridge, 150 ft. above cor., bears E. and W.
Descend.
28.40 Hollow, 150 ft. deep, drains SW.
Ascend 100 ft. to
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 35 on W. half, and S 36 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable.
64.00 Ridge, 75 ft. above 1/4 cor., bears N. 80° W. and S. 80° E.
Descend 50 ft. to
69.20 Hollow, drains NW.
Thence ascend along the west side of spur, projecting S.
80.00 75 ft. above hollow.
Set an iron post, 3 ft. long, 24 ins. in the ground for cor. of secs. 25, 26, 35 & 36, marked on brass cap.

T 22 S S 26 in NW.,
R 24 E S 25 in NE.,
S 36 in SE. and
S 35 in SW. quadrant,

raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
Land, mountainous, with general SW. slope.
Soil, rocky, with rocky sub-soil, 4 & 5 rates.
Undergrowth, a short shadscale.
No timber
Some good grass for grazing.
Mountainous land 80.00 chs.

East, on a random line bet. secs. 25 & 36.
40.00 Set temporary 1/4 sec. cor.
80.04 Intersect E. bdy. of the tp. 7 chs. N. of the cor. of secs. 25, 30, 31 & 36

Subdivision of T. 22 S., R. 24 E.

Chains	
	heretofore described.
	Thence I run
	N. 89° 57' W., on true line bet. secs. 25 & 36
	over mountainous land, through
	scattering cedar & juniper.
	Descend.
10.80	Wash in hollow, 75 ft. deep, drains
	SW.
	Ascend 100 ft. to
15.50	Ridge, bears NE. and SW.
	Descend
24.80	Hollow, 125 ft. deep, drains S. 30° W.
	Ascend 120 ft. to
32.00	Ridge, bears N. & S. Descend.
40.02	On east side of wash in hollow,
	25 lks. wide, 75 ft. deep, course S.
	Set an iron post, 3 ft. long, 1 in.
	in dia., 26 ins. in the ground
	for 1/4 sec. cor. marked on brass
	cap, 1/4 S 25 on N. half, and S 36
	on S. half, raise a mound of
	stone, 2 ft. base, 1 1/2 ft. high, N. of
	corner.
	Pits impracticable.
	Ascend 75 ft. to
47.50	Ridge, bears N. 80° E. and SW.
	Descend 125 ft. to
74.00	Hollow, drains SW.
	Ascend 50 ft. to
78.50	Spur, projects S.
	Gradually descend 25 ft. to
80.04	The cor. of secs. 25, 26, 35 & 36.
	Land Mountainous with a
	general SW slope and drain.
	Soil rocky with rocky, sub-soil, 4th
	rates.
	Timber, scattering cedar & juniper.
	No Undergrowth.
	Some grass for grazing.
	Mountainous and timbered land 80.04 ch.
	N. 0° 01' W., bet. secs. 25 & 26.

Subdivision of T. 22 S., R. 24 E.

Chains	
	Over mountainous land through scattering cedars Junon
	Gradually ascend 75 ft. to
19.00	Ridge, bears E. and W.
	Descend 125 ft. to
24.80	Hollow, drains S. 80° W.,
	Ascend 75 ft. to
34.00	Ridge, bears NE. and SW.
	Descend 40 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 26 on W. half and S. 25 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
	Pits impracticable
44.00	Head of hollow, drains SW.
	Ascend 20 ft. to
45.20	Ridge, bears NE. and SW.
	Descend abruptly 200 ft. to
59.80	Wash in canyon, 20 lks. wide, course SW.
	Ascend over limestone ledges, 125 ft. to.
67.50	Ridge, bears NE. and SW.
	Thence over land facing nearly W., gradually ascending
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 23, 24, 25 and 26, marked on brass cap.
	T 22 S S 23 in NW.,
	R 24 E S 24 in NE.,
	S 25 in SE. and
	S 26 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Land mountainous with general SW drain and N. & S. slopes

Subdivision of T. 22 S., R. 24 E.

Chains	
	of ridges.
	Soil, rocky with rocky sub-soil, 4th rates.
	Timber, scattering scrub cedar and pinon., undergrowth a short shadscale.
	Some good grass for grazing.
	Mountainous and timbered land 80.00 ch.
	S. 89°57' E., on random line bet. secs. 24 & 25.
40.00	Set temporary 1/4 sec. cor.
80.02	Intersect E. bdy. of the tp. 7 lks. S. of the cor. of secs. 19, 24, 25 & 30 heretofore described.
	Thence I run
	West, on true line bet. secs. 24 & 25
	Over mountainous land through scattering forest of cedar and pinon.
6.25	Begin to descend over rocky land facing nearly S.
40.01	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 24 on N. half, and S 25 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable.
40.30	Hollow, 100 ft. deep, drains SW.
	Ascend 75 ft. to
47.50	Ridge, bears N. & S.
	Thence over land facing S.
76.00	Ridge, bears N. 80° E and SW.
	Descend 25 ft. to
80.02	The cor. of secs. 23, 24, 25 & 26.
	Land mountainous with southerly slope and drain.
	Soil, rocky, sub soil rocky and gravelly, 4th rates
	Timber, scattering scrub cedar

chains	
	and juniper. Undergrowth shadscale. Some good grass for grazing. Mountainous land. October 31. At this cor. I set off 14° 00' S. on the decl. arc, and at 11h 44m a.m. l.m.t. observe the sun on the mer; the resulting lat is 38° 53'
	N. 0° 01' W., bet. secs. 23 & 24. Over mountainous land. Ascend 50 ft. to
3.00	Ridge, bears E. and W. Descend abruptly 100 ft to
7.50	Hollow, drains S. 85° W. Ascend 90 ft. to
12.50	Ridge, bears E. and W. Descend abruptly 125 ft to
18.50	Wash in canyon, 20 lks. wide, course west. Ascend 200 ft to
33.00	Ridge, bears E. & W. Descend 50 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 23 on W. half and S. 24 on E. half, and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. pits impracticable
45.30	Wash in hollow, 10 lks. wide, 6 ft. deep, course S. 80° W. Ascend 150 ft. to
61.00	High ridge, bears E. & W. Descend abruptly 300 ft. over land facing N. to
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 & 24 marked on brass cap.

Subdivision of T. 22 S., R. 24 E.

Chains	
	T. 22 S. S. 14 in NW.; R. 24 E. S. 13 in NE. S. 24 in SE. and S. 23 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of corner. Pits impracticable. Land mountainous with a general westerly drain on S. 61 chs. and north easterly drain on N. 19 chs, with N. & S. slopes of ridges. Soil rocky of volcanic formation. Sub-soil rocky, 4th rates. Timber, a few scattering cedar and juniper. Undergrowth, short chaparral. Mount amous or timbered land 80.00 chs
	Nov. 2: 1910: for solar observation see line bet. secs. 22 & 27. East, on a random line, bet. secs. 13 & 24.
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect East bdy. of tp., 7 lks. N. of the cor. of secs. 13, 18, 19 & 24 heretofore described. Thence I run. N. 89° 57' W., on true line bet. secs. 13 & 24. Over mountainous land, thru scattering cedar & juniper. Gradually ascend.
10.00	Base of rocky ridge and wash, drains, NE. Ascend 150 ft. to
21.00	Ridge, bears NE. and SW. Thence descend over rocky SW. slope
40.00	100 ft. below ridge, Set an iron post, 3 ft. long, 1 in. in dia., 12 ins. in the ground and mound of stone 4 ft. base, 1½ ft. high, (on account of natural obstacles I am unable to set post in ground over 1 ft.) for 1/4 sec. cor. marked on

Subdivision of T. 22 S., R. 24 E.

chains	
	brass cap 1/4 S 13 on N. half and S 24 on S. half, and raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
70.50	Hollow, 100 ft. below 1/4 cor., drains NW.
	Thence ascend 100 ft. over land facing NE. to
80.00	The cor. of secs. 13, 14, 23 & 24.
	Land mountainous with general N. drain and E. and W. slopes of ridges.
	Soil rocky and sandy, with gravelly and rocky sub-soils, 4th rates.
	Timber, very poor scrub cedar & pinon
	Undergrowth, sage brush and shadscale.
	Some good grass for grazing mountainous for timbered land 80.00 chs
	November 2, 1911
	October 31: For solar observation see line bet. secs. 35 & 36.
	N. 0° 01' W., bet. secs. 13 & 14.
	Gradually descend over rocky mountainous land with northerly slope.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 14 on W. half, and S 13 on E. half, and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
56.50	Wash in hollow, 25 lks. wide, 250 ft. below sec. cor., drains NE.
	Ascend 125 ft. to
64.00	Ridge, bears E. and NW.
	Descend abruptly 200 ft. to
75.50	Hollow, drains N. 70° W.
	Ascend 100 ft. to

Subdivision of T 22 S., R. 24 E.

Chains	
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 11, 12, 13 & 14 marked on brass cap.
	T 22 S S 11 in NW.,
	R 24 E S 12 in NE.,
	S 13 in SE. and
	S 14 in SW. quadrant,
	and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
	Land mountainous with northeasterly drain on S. 64 chs. and northwesterly drain on N. 16 chs. soil, rocky 4th rate of volcanic formation.
	sub-soil a hard clay & rocky
	Undergrowth short chaparral No timber
	Mountainous land 80.00 chs.
	October 31, 1910
	Nov. 4: At 7h 44m a. m. l. m. t., I set off 38° 55' on the lat. arc 15° 11' S. on the decl. arc, and determine a mer. with the solar at the cor. of secs. 11, 12, 13 & 14
	Thence I run
	S. 89° 57' E. on a random line bet. secs. 12 & 13.
40.00	Set temporary 1/4 sec. cor.
79.96	Intersect E. bdy. of tp. at the cor. of secs. 7, 12, 13 & 18 heretofore described.
	Thence I run
	N. 89° 57' W., on true line bet. secs. 12 & 13.
	Over broken land draining N.E.
1.90	Wash, 10 lks. wide, 2 ft. deep, course N. 30° E.
	Ascend 25 ft. to
4.00	Low ridge, bears N. & S. Descend 50 ft.
35.00	Hollow, drains N.
	Gradually ascend.
39.98	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4

Chains.

sec. cor. marked on brass cap 1/4 S 12 on N. half and S 13 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor
Pits impracticable
50.00 Wash, 10 lks. wide, 5 ft. deep, course N. 20° W.
Thence up steep NE. slope of ridge.
62.00 Ridge, 200 ft. above wash, bears S. 30° E. and NW.
Thence gradually descend over land sloping nearly S. into canyon.
79.96 The cor. of secs. 11, 12, 13 & 14.
Land mountainous with, northerly drain.
Soil, rocky and gravelly of volcanic formation. Sub-soil gravelly. 1st rates
Undergrowth, chaparral. No timber
Mountainous land 79.96 ch.

N. 0° 01' W., bet. secs. 11 & 12:
over mountainous land.
Ascend 100 ft. to
10.50 Ridge, bears E. & W.
Thence descend abruptly 425 ft. over land facing nearly N. to
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S. 11 on W. half, and S. 12 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.
Pits impracticable.
40.20 Hollow, drains NW.
48.25 Coach Creek, 40 lks. wide, some water, course W.
Ascend 100 ft. to
57.50 Ridge, bears E. and SW.
Gradually desc. 50 ft. to
68.00 Hollow, drains, W.
Ascend 75 ft. to

Subdivision of T. 22 S., R. 24 E.

Chains	
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor of secs. 1, 2, 11 & 12, marked on brass cap. T 22 S S 2 in NW., R 24 E S 1 in NE. S 12 in SE. and S 11 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Land, mountainous draining W. with N. & S. slopes of ridges Soil, rocky and sandy, with subsoil of rocks and hard gravel, 4th rate Undergrowth short shadscale and sage brush. no timber Mountainous land 80.00 chs.
	S. 89° 57' E., on random line, bet secs. 1 & 12
40.00	Set temporary 1/4 sec. cor.
79.98	Intersect E. bdy. of tp. 3 lks. N. of the cor. of secs. 1, 6, 7 & 12 heretofore described. Thence I run N. 89° 56' W., on true line bet. secs. 1 & 12. Ascend over rocky land sloping SE. thru scattering cedar and undergrowth of shadscale.
9.10	Ridge, 75 ft. above sec. cor. bears NE. & SW. Thence over land draining SW.
32.20	Hollow, 100 ft. deep, drains S. Gradually ascend.
39.99	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap, 1/4 S 1 on N. half, and S 12 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor. Pits impracticable
116.00	Low ridge, bears N. & S.
79.98	The cor. of secs. 1, 2, 11 & 12.

Subdivision of T. 22 S., R. 24 E.

Chains

Land hilly with general SW slope and drain.
Soil rocky 4th rate, with solid bed rock close to surface.
Undergrowth, chaparral a few scattering cedar. Some good grass for grazing. Mountainous land 79.98 chs.

Nov 5: At 7h 44m a.m. l.m.t. I set off 38°56' on the lat. arc; 15°30' S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 1, 2, 11 & 12.
Knowing that closing corners are necessary upon the N. bdy. of the tp. I run
N. 0°01' W., on true line bet. secs. 1 & 2.
Gradually ascend over hilly land sloping SE., through short undergrowth of sage brush and chaparral.

27.50 Low ridge, 50 ft. above sec. cor, bears E. & W.
Gradually descend 75 ft. to

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on W. half and S 1 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist.; and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of corner.

42.20 Wagon road to Andersons ferry, bears E. and W.

48.90 Wash, 10 lks. wide, 2 ft. deep, course NE.

69.00 Wash, 6 lks. wide, 3 ft. deep, course NE.
ascend 25 ft. to

79.00 Low ridge, bears E. & W.
Descend 50 ft. to

85.52 Intersect N. bdy. of the tp. 7.40 chs
S. 89°58' W., of the Cor. of secs. 35 & 36.

Subdivision of T. 22 S., R. 24 E.

Chains	
	heretofore described.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. to secs. 1 & 2, marked on brass cap.
	CCT 21 S R 24 E S 35 S 36 on N. half.
	S 1 in SE. and
	S 2 in SW. quadrant,
	dig pits, 24 x 18 x 12 ins. Crosswise on each line, E. and W., 3 ft., and S. of post, 7 ft. dists. and raise a mound of earth, 4 ft. base, 2 ft. high, S. of cor.
	Land hilly, draining S. on S. 27.50 chs and NE. on N. 58.02 chs. Soil, sandy & gravelly with gravelly sub-soil. 2nd rate.
	Undergrowth short chadscale and sage brush no timber.
	Nov. 1: At 7h 44m a. m. l. m. t. I. set off 38° 51' on the lat. arc; 14° 14' S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 2, 3, 34 & 35 on the S. bdy. of the tp heretofore described. Thence I run.
	N. 0° 01' W. bet. secs. 34 and 35. Gradually descend over rolling land sloping N., thru dense undergrowth of short chadscale.
32.50	Wash, 10 lks. wide, 3 ft. deep course NW. Ascend 40 ft. to
35.00	Low ridge, bears E. and W. Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 34 on W. half and S 35 on E. half, raise a mound of stone

Subdivision of T. 22 S., R. 24 E.

Chains.	
	2 ft. base, 1½ ft. high W. of cor. Pits impracticable
47.30	Wash, 10 lks. wide, 4 ft. deep, course W.
	Ascend 75 ft. to
64.00	Ridge, brass E. & W.
	Descend 75 ft. to
70.40	Hollow, drains NW.
	Gradually ascend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 26, 27, 34 & 35, marked on brass cap,
	T 22 S S 27 in NW.,
	R 24 E S 26 in NE.,
	S 35 in SE. and
	S 34 in SW. quadrant,
	dig pits, 24 x 24 x 12 ins. in each sec., 5½ ft. dist; and raise a mound of earth 4 ft. base, 2 ft. high, W. of cor. Land, rolling draining north and west. Soil sandy & gravelly surface with gravelly sub-soil, 2nd rate. Undergrowth sage brush and shad-scale. Some good grass for grazing. No timber.
	East, on a random line, bet. secs. 26 and 35
40.00	Set temporary 1/4 sec. cor.
80.10	Intersect N. & S. line at the cor. of secs. 25, 26, 35 & 36.
	Thence I run
	West, on true line bet. secs. 26 & 35.
	Descend over mountainous land facing SW.
7.50	Hollow, 75 ft. deep, drains N. 70° W.
	Ascend 50 ft. to
12.00	Spur, projects N.
	Descend 50 ft.
14.80	Enter same hollow, drains W.

Subdivision of T. 22 S., R. 24 E.

Chains	
16.70	Leave hollow, drains NW. Ascend abruptly 75 ft. to
22.50	Ridge, bears NW. and SE. Thence gradually descend over gentle NW. slope.
40.05	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 26 on N. half and S 35 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor. Pits impracticable.
54.50	Same hollow, drains SW. Thence over rocky land sloping S.
80.10	The cor. of secs. 26, 27, 34 & 35 Land mountainous with westerly drain. Soil gravelly and rocky surface, with hard clay & rock sub-soil, 4th rate. No timber Undergrowth, short shadscale
	West, on a random line, bet. secs. 27 & 34
40.00	Set temporary 1/4 sec. cor.
80.18	Intersect N. & S. line 1.37 chs. N. 0°17' W. of the cor. of secs. 27, 28, 33 & 34 described on page 61. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 27 & 34 marked on brass cap. T 22 S R 24 E on N. half CC S 27 S 34 on E. half and S 28 S 33 on W. half, dig. pits 24 x 18 x 12 ins., crosswise on each line, N. & S. 3 ft., and E. of post, 7 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high E. of cor.

Same.

I destroy all marks on old cor. pertaining to secs. 27 & 34.
Thence Trav.
East, on true line, bet. secs. 27 & 34.
Gradually ascend over rolling land sloping NW.
110.09 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 27 on N. half and S 34 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
Pits impracticable
66.10 Hollow, drains NW.
Ascend.
80.15 The cor. of secs. 26, 27, 34 & 35.
Land rolling, draining W.
Soil, sandy and rocky surface with sub-soil of hard clay & rocks, 4th rate
Undergrowth short shadscale.
No timber
Note: At this sec. cor. I set off 14° 19' S. on the dec. arc, and at 11h 14m a.m.l.m.t. observe the sun on the mer.; the resulting lat. is 38° 52'

N. 0° 01' W., bet. secs. 26 & 27
Over mountainous land facing nearly west.
14.60 Hollow, drains W.
Ascend 75 ft. to
20.00 Spur, projects W.,
Descend 50 ft. to
71.50 Hollow, drains W.
Ascend 100 ft. to
39.00 Ridge, bears E. & W.
Thence descend over land facing NW. into hollow.
110.00 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground, for 1/4 sec. cor. marked on brass cap 1/4 S 27

Chains	
	on W. half and S 26 on E. half, and raise a mound of stone, 2 ft. base, 1½ ft high W. of cor.
	Pits impracticable
63.70	Hollow, 75 ft. deep, drains S. 80° W.
	Ascend 75 ft. to
66.00	Ridge, bears E. & W.
	Descend 50 ft. to
74.40	Hollow, drains SW.
	Ascend
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 22, 23, 26 & 27, marked on brass cap,
	T 22 S S 22 in NW.,
	R 24 E S 23 in NE.,
	S 26 in SE. and
	S 27 in SW. quadrant,
	and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Land mountainous with general westerly drain and N. and S. slopes of ridges
	Soil rocky of volcanic formation with hard gravelly sub-soil
	Undergrowth, a short chaparral
	Timber, a few scattering cedar & juniper
	Mountainous or timbered land 80.00 chs.
	East, on a random line, bet. secs. 23 & 26.
40.00	Set temporary ¼ sec. cor.
80.10	Intersect N. & S. line 3 lks. N. of the cor. of secs. 23, 24, 25 & 26
	Thence I run
	N. 89° 59' W., on true line bet. secs. 23 & 26
	Gradually descend over mountainous land facing nearly south, through scattering forest of cedar & juniper
40.05	Set an iron post, 3 ft. long, 1 in. in

chains	
	dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 23 on N. half and S 26 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
54.30	Wash in hollow, 15 lks. wide, 75 ft. below sec. cor., drains SW.
	Ascend 75 ft. to
58.00	Ridge, bears NE. and SW.,
	Descend 50 ft. to
75.00	Hollow, drains SW.
	Ascend 25 ft. to
80.10	The cor. of secs. 22, 23, 26 & 27
	Land mountainous with westerly drain and general S. slopes
	Soil rocky with rocky sub soil, 4th rate
	Timber some scattering cedar and juniper
	Undergrowth short chaparral
	Mountainous and timbered land, 80.10 chs.
	November 1, 1910

	November 2: At 8h 14m a.m. l. mt. I set off 38° 53' on the lat. arc; 14° 34' S. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 22, 23, 26 and 27
	Thence I run
	West on a random line, bet secs. 22 & 27.
40.00	Set temporary 1/4 sec. cor.
80.55	Intersect N. & S. line 25 lks. N. of the cor. of secs. 21, 22, 27 & 28. For description of cor. see line bet. secs. 27 & 28.
	Thence I run
	N. 89° 49' E., bet secs. 22 & 27
	Over mountainous land
	Descend 75 ft. to
8.20	Wash in hollow, 50 lks. wide, course NW

Subdivision of T. 22 S., R. 24 E.

Chains	
	Ascend 75 ft. to
30.50	Spur, projects S.
	Descend
32.90	Same wash in hollow, drains S. 80° W.
	Gradual ascent over land facing
	nearly S.
40.55	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4 sec.
	cor., marked on brass cap 1/4 S 22
	on N. half and S 27 on S. half,
	and raise a mound of stone, 2 ft.
	base, 1 1/2 ft. high N. of cor.
	Pits impracticable
44.10	Spur, 50 ft. high, projects SW.
	Descend over land facing SE, 75 ft. to
66.25	Same wash in hollow, drains S. 80° W.
	Ascend 75 ft. to
77.50	Ridge, bears N. & S.
	Descend
80.55	The cor. of secs. 22, 23, 26 & 27.
	Land mountainous draining W.
	with general S. slope.
	Soil, rocky with rocky sub-soil, 4th rate
	Undergrowth a short chaparral.
	No timber. Mountainous land, 80.55 chs.
	N. 0° 01' W., bet. secs. 22 & 23.
	Over mountainous land.
	Ascend SE. slope of ridge, 100 ft. to
18.00	Ridge, bears E. & W.
	Descend 100 ft. to
31.40	Wash in hollow, drains S. 80° W.
	Thence ascend 200 ft. over rocky land
	facing SE.
40.00	on edge of low rim of rock.
	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4
	sec. cor., marked on brass cap, 1/4
	S 22 on W. half and S 23 on E.
	half, and raise a mound of stone,

Chains	
	2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
	Continue to ascend.
62.50	Ridge, bears N. 80° W., and S. 80° E.
	Descend steep N. slope, 300 ft. to
76.70	Head of hollow, drains NW.
	Thence over land facing W.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 14, 15, 22 & 23, marked on brass cap
	T 22 S S 15 in NW.,
	R 24 E S 14 in NE.,
	S 23 in SE. and
	S 22 in SW., quadrant,
	and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable.
	Land mountainous with westerly drain on S 62.50 chs. and Northerly drain on N. 17.50 chs. with steep N. and SE. slopes of ridges.
	Soil rocky with rocky sub-soil, 4th rates
	Undergrowth, short chaparral.
	Some good grass for grazing. No timber
	Mountainous land 80.00 chs.
	November 2: At this cor. I set off 14° 38' S. on the decl. arc; and at 11h 44m a. m. l. m. t. observe the sun on the meridian, the resulting lat is 38° 54'
	S. 89° 59' E. on random line, bet. secs. 14 & 23.
40.00	Set temporary ¼ sec. cor.
80.16	Intersect N. & S. line 3 lks. S. of the cor. of secs. 13, 14, 23 & 24.
	Thence I run
	West, on true line, bet. secs. 14 & 23.
	over mountainous land through
	scattering cedar and piñon.

Subdivision of T. 22 S., R. 24 E.

Chains	
	Descend 75 ft. to
8.60	Hollow, drains NW.
	Thence ascend rocky NE. slope of high spur.
35.00	Spur, 350 ft. above sec. cor., projects N.
	Descend abruptly over land facing NW.
40.08	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 14 on N. half, and S 23 on S. half, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable.
	Continue to descend.
59.00	Hollow, 400 ft. below spur, drains NW.
	Ascend 75 ft. to
62.00	Spur, projects NW.
	Descend 50 ft. to
66.00	Hollow, drains NW.
	Ascend 25 ft. to
69.00	Spur, projects N.
	Descend 100 ft. to
80.16	The cor. of secs. 14, 15, 22 & 23.
	Land mountainous draining N and NW. with steep NE & NW. slopes of ridges.
	Soil rocky 4th rate of volcanic formation, sub-soil, rocky.
	Timber, scattering cedars & pinon
	No undergrowth
	Mountainous and timbered land 80.16 chs.
	N. 0° 01' W. bet. secs. 14 & 15.
	Nos 4: For. solar observation see line bet. secs. 1 & 12.
	Over broken land draining W.
9.40	Hollow, drains S. 80° W.
	Ascend 25 ft. to
10.75	Low spur, projects W.
	Descend 50 ft. to

Subdivision of T. 22 S., R. 24 E.

Chains	
16.50	Hollow, drains N. 80° W.
	Ascend 75 ft. to
38.00	Spur, projects E. and SW.
	Descend 30 ft. to
40.00	Point for 1/4 sec. cor. in wash, course S. 80° W. no cor. set. ascend
40.30	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap. T22S R24 E. on N. half, S 15 on W. half, S 14 on E. half, with W. C 1/4 to the S., and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
41.00	Ridge, brass E. and W.
	Descend 40 ft. to
44.40	Hollow, drains NW.
	Ascend 35 ft. to
47.50	Spur, projects NW.
	Thence descend over rocky land facing N. to Grand river.
69.70	Enter cottonwood timber and river bottom, brass E. & W.
76.60	Left bank of Grand river.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. to fract. secs. 14 & 15, marked on brass cap
	T 22 S R 24 E on N. half.
	S 14 M C in E. half,
	S 15 in W. half,
	from which
	A Cottonwood, 12 ins. diam., brass S. 45° 30' E., 8.8 lks. dist., marked
	M C T 22 S R 24 E S 14 B T.
	A cottonwood, 18 ins. diam., brass S. 26° W, 155 lks. dist., marked
	M C T 22 S R 24 E. S 15 B T.

Subdivision of T. 22 S., R 24 E.

Chains	
	Point for cor. of secs. 10, 11, 14 & 15 falls in Grand river, no cor. set. Land mountainous draining W. Soil, rocky and clay with hard clay sub-soil, 4th rates. Timber, dense cottonwoods on N. 6.90 chs. No undergrowth. Mountainous or timbered land 76.60 chs.
	November 4: At the cor. of secs. 11, 12, 13 & 14, I set off 15°19' S. on the decl. arc; and at 11h 44m a. m. l. m. t. observe the sun on the meridian, the resulting lat. is 38°55'
	From cor. I run West, on true line bet. secs. 11 & 14. Over broken mountainous bad lands,
	Descend abruptly into canyon
9.40	Wash in canyon, 150 ft. below cor, course NW.
	Ascend abruptly 40 ft. to
10.80	Spur, projects N.
	Descend 50 ft. to
12.60	Gulch, drains N.
	Ascend 75 ft. to
16.80	Spur, projects N.
	Descend 100 ft. to
34.80	Gulch, drains N. 60° W.
	Ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S. 11 on N. half and S. 14 on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor. Pits impracticable
50.00	Spur, projects N.
	Descend 75 ft. to
58.60	Spring branch, 1 lk. wide, course N.

Subdivision of T. 22 S., R. 24 E.

Chains.	
	Ascend 25 ft. to
63.70	Spur, projects N.
	Descend
67.77	To left bank of Grand river.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 11 & 14, marked on brass cap
	MC T22S R24E S11 on N. half and S14 on S. half, dig pit, 36 x 36 x 12 ins., E. of post 8 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high E. of cor I am unable to secure a base to triangulate across river at this point.
	Land mountainous draining NW. soil rocky and clay with rocky and hard clay sub-soil, 4th rates. No timber, no undergrowth.
	Mountainous land, 67.77 ch.
	November 5: For solar observation see line bet. secs. 1 & 2.
	From the cor. of secs. 1, 2, 11 & 12
	[illegible], Trun
	West, on true line bet. secs. 2 & 11
	Over mountainous land draining SW.
	Ascend 50 ft. to
6.00	Rocky ridge, bears NE. and SW.
	Descend 50 ft. to
13.00	Gulch, drains S.
	Ascend 40 ft. to
23.50	Spur, projects SW.
	descend 50 ft. to
32.20	Gulch, drains S. 30° W.
	Ascend 60 ft. to
36.00	Spur, projects SW.
	Gradually descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on N. half and S 11

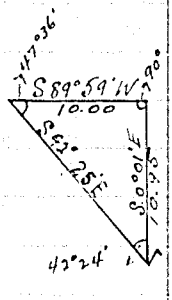
Subdivision of T. 22 S., R 24 E.

Chains.	
	on S. half, and raise a mound of stone, 2 ft. base, 1½ ft. high N. of corner.
	Pits impracticable
43.00	Hollow, drains SW.
	Thence over rolling land.
46.00	Low ridge, bears N. & S.
	Descend gradually
50.00	Wash, 10 lks. wide, 2 ft. deep, course S.
	Ascend
60.00	Ridge, bears N. & S.
	Descend.
71.00	Wash, 10 lks wide, 1 ft. deep, course S. 30° W.
73.20	Wire fence, bears N. 20° E. and S. 20° W.
	Enter Anderson's plowed field.
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 & 11, marked on brass cap
	T 22 S S 3 m NW.,
	R 24 E S 2 m NE.,
	S 11 m SE. and
	S 10 m SW. quadrant,
	dig pits, 18 x 18 x 12 ins., in each sec., 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	E. 73.20 chs, rolling mountainous land draining S. soil sandy & rocky 4th rate. sub-soil rocky.
	W. 6.80 chs. level land, good rich sandy loam soil with sandy sub-soil, 1st rate. Undergrowth, sage brush and shadscale. No timber
	S. 0° 01' E., bet. secs. 10 & 11.
	Gradually descend across plowed field belonging to Anderson.

Chains

10.00 Wire fence and leave field, bears E. & W.
Enter dense cottonwood timber and chaparral undergrowth.
Begin descent towards Grand river.

16.40 Left bank of Grand river.
Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for meander cor. of frac. secs. 10 & 11 marked on brass cap
T 22 S R 24 E. on N. half,
S 11 on E. half and
M C S 10 on W. half, dig pit, 36 x 36 x 12 ins. N of post, 8 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high, N. of cor.
No suitable trees within limits.
To determine the distance across river, I set a flag on line on right bank, then measure a base line, S. 89° 59' W., 10.00 chs. to a point from which the flag bears S. 42° 25" E., from the flag the West end of the base bears N. 42° 25' W., therefore tan 47° 36' x base; or 1.095 x 10 = 10.95 chs. which added to 16.40 chs makes.



27.35 To right bank Grand river, set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for meander cor., of frac. secs. 10 & 11 marked on brass cap
T 22 S R 24 E on N. half
M C S 11 on E. half and
S 10 on W. half,
and raise a mound of stone, 3 ft. base, 2 ft. high S. of cor.
Pit impracticable

Subdivision of T. 22 S., R. 24 E.

Chains.	
	Begin steep ascent over land facing N.
40.00	100 ft. above meander cor. Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 10 on W. half and S 11 on E. half, and raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of Cor. Pits impracticable
	Continue to ascend.
46.00	Ridge, 100 ft. above 1/4 cor., bears E. & W. Begin steep descent over land facing nearly south, 350 ft. to
76.05	Right bank of Grand river. Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for meander cor. of secs. 10 & 11, marked on brass cap T 22 S R 24 E on N. half S 11 on E. half and MC S 10 on W. half, from which A cottonwood, 12 ins. diam., bears East 4 lks. dist., marked MC T 22 S R 24 E S 11 BT A cottonwood, 5 ins. diam., bears West, 7 lks. dist., marked MC T 22 S R 24 E S 10 BT. N. 10 chs. level land, good rich sandy loam soil. S 66 chs. rocky land draining S & N to Grand river. Soil rocky of volcanic formation. Timber, some cottonwoods on river bottom. No undergrowth except dense chaparral on 6.40 chs. of river bottom. Note. From this meander cor., the Meander cor. of fractional secs. 14 & 15 on the left bank of Grand

Chains

river which is plainly visible bears South. To determine distance across river I set a flag at M.C. of fracl secs. 10 + 11 and from the meander cor. of fracl secs. 14 + 15 measure a base line S. 64° 30' W. 4.30 chs. to a point from which flag bears N. 23° 09' E. From the flag the west end of the base bears S. 23° 09' E. By separate measurement of each angle they are found to be respectively 115° 30', 41° 21' and 23° 09', their sum being 180°. $\frac{\sin 41° 21' \times \text{base}}{\sin 23° 09'}$ or $\frac{.660 \times 4.30}{.3931}$ = 7.22 chs. distance across river and between meander corners

November 5: At the cor. of secs. 2, 3, 10 + 11, I set off 15° 35' S. on the decl. arc; and at 11h 44m a.m. l.m.t. observe the sun on the mer; the resulting lat. is 38° 56'.

N. 0° 01' W., bet secs. 2 + 3

Gradually ascend over plowed field.

11.00 Rail fence and leave plowed land bears NW. and SE.

15.00 Road, to Anderson's ferry, bears NW + SE.

17.00 Begin ascent over hilly ground sloping SW.

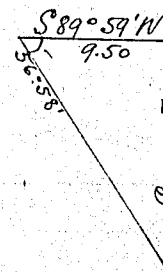
21.00 Wire fence, bears N. 30° W. and S. 30° E.

35.60 Ridge, 75 ft. high, bears NE + W. Andersons house bears N. 82° 30' W. Gradually descend.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap

Subdivision of T. 22 S., R. 24 E.

chains	
	1/4 S 3 on W. half and S. 2 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Continue to descend.
47.05	Wire fence, bears E. and W.
50.00	Base of descent and enter bottom land, dense cottonwood timber and undergrowth of chaparral.
53.75	Left bank of Grand river.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 2 and 3 marked on brass cap T 22 S R 24 E on N. half, M C S 2 on E. half, and S 3 on W. half,
	from which
	a cottonwood, 48 ins., diam., bears N. 72° E., 245 lks. dist., marked M C T 22 S R 24 E S 2 B T
	a cottonwood, 41 ins. diam., bears S. 64° 30' W., 80 lks. dist., marked M C T 22 S R 24 E S 3 B T
	To determine the distance across river, I set a flag at the meander cor., then place my transit on line N. 0° 01' W., of meander cor. on right bank of river, and measure a base line S. 89° 59' W., 9.50 chs., to a point from which the base subtends an angle of 56° 58' to the flag, therefore tan. 56° 58' × base or 1.538 × 9.50 chs = 14.61 chs., which added to 53.75 chs. makes
68.36	To right bank of Grand river.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 2 and 3, marked on brass cap



chains

T 22 S. R 24 E on N. half,
S 2 on E. half and
MC S 3 on W. half, raise
a mound of stone, 2 ft. base, 1½ ft.
high N. of cor.
Pit impracticable
November 5, 1910
November 12; 1910: For solar observation, see line bet. secs. 3 and 4, page 40
Thence I continue
N. 0° 01' W.
Leave cottonwood timber and dense undergrowth of chaparral.
Gradually ascend over land sloping S.

85.40 Intersect N. bdy. of the tp., 8.37 chs.
S. 89° 52' W., of the cor. of secs. 34 and 35 heretofore described
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 2 and 3, marked on brass cap
C C T 21 S R 24 E S 34 S 35 on N. half,
S 2 in SE. and
S 3 in SW. quadrant,
raise a mound of stone, 2 ft. base, 1½ ft. high S. of cor.
Pits impracticable.
S. 11 chs., level land, good rich sandy loam soil, with rich sand sub-soil.
N. 74. 40 chs., hilly land draining W. and S. gravelly soil, with hard sand sub-soil. Undergrowth, dense chaparral on river bottom. Timber cottonwoods on river bottom.

November 3: For solar observation see line bet. secs. 15 and 22.

Subdivisions of T. 22 S., R. 24 E.

Note: Having closed upon the cor. of secs. 21 & 28 and finding that the distance bet. secs. 22 & 27 is out of limits and that the line bet secs. 21 & 28 is out of limits in distance and course a sectional correction line is necessary bet the secs. 15 & 22, 16 & 21, 17 & 20 and bet. 18 & 19. Having already run the line bet. secs. 15 & 22 and finding that the cor. of secs. 15, 16, 21 & 22 falls in Grand river, I proceed to establish the line bet. secs. 21 & 22 as follows:

From the cor. of secs. 21, 22, 27 & 28; for description of cor. see line bet. secs. 27 & 28 I run.

N. 89° 49' E.

0.55 At this point which is 80.00 chs. S. 89° 49' W. of the cor. of secs. 22, 23, 26 & 27, I set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 21 & 22, marked on brass cap

T 22 S S 21 in NW., and
R 24 E S 22 in NE. quadrant,

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

Pits impracticable.

I destroy all marks on old. cor. pertaining to secs. 21 & 22

Thence I run

N. 0° 02' W., on true line bet. secs. 21 & 22.

Over broken land draining W.

Descend 75 ft. to

6.10 Wash in hollow, 50 lks. wide, drains NW.

Ascend 50 ft. to

13.30 Ridge, bears E. and W.

Descend 100 ft. to

21.30 Wash in hollow, drains W.

Thence ascend S. slope of high ridge

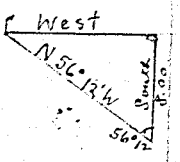
Chains.

40.00 At base of huge boulders.
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 21 on W. half and S. 22 on E. half, and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
Ascend over boulders.
41.30 Top of ridge, 200 ft. above hollow, bears NE. and SW.
Begin step descent over NW. slope
45.30 Ledge, 75 ft. high bears NE. & SW.
Descend abruptly.
53.90 400 ft. below ridge, on left bank of Grand river.
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fractional secs. 21 & 22, marked on brass cap,
T 22 S R 24 E on N. half,
M C S 22 on E. half, and
S 21, on W. half,
and raise a mound of stone, 2 ft. base, 1½ ft. high S. of cor.
Pits impracticable. I cannot secure a satisfactory base to triangulate across river at this point.
Land, mountainous with general westerly drain and steep S and NE. slopes of ridges. Soil gravelly and rocky with rocky sub-soil 4th rates. Undergrowth short chaparral. No timber. Mountainous land 53.90 ch.

November 3: At 8h 44m a. m. l. m. t. I set off 38° 54' on the lat. arc; 14° 54' S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 14, 15, 22 and 23.

Chains.	
	Thence I run
	West, on sectional correction line
	between secs. 15 & 22.
	Over rough mountainous land
	sloping N.
	Descend 25 ft. to
4.10	Hollow, drains NW.
	Ascend 75 ft. to
11.00	Spur, projects N.
	Descend 50 ft. to
15.00	Hollow, drains N.
	Ascend 60 ft. to
23.50	Spur, projects N.
	Descend 40 ft. to
25.00	Hollow, drains N.
	Ascend
40.00	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4
	sec. cor. marked on brass cap,
	1/4 S 15 on N. half and S 22 on S.
	half and raise a mound of stone,
	2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
	Continue to ascend.
46.50	High spur, 150 ft. above hollow,
	projects N.
	Descend abruptly 300 ft. over land
	facing NW. to
69.05	Left bank of Grand river
	Set an iron post, 3 ft. long, 1 in.
	in dia., 26 ins. in the ground for
	meander cor. of fractional secs.
	15 & 22, marked on brass cap
	T 22 S R 24 E M C S 15 on N. half
	and S 22 on S. half, and
	raise a mound of stone, 2 ft. base
	1½ ft. high E. of cor.
	Pit impracticable
	To determine the distance across
	river I set a flag on line on right

Chains



bank, then measure a base south 8 chs. to a point from which flag bears N. 56° 12' W., from the flag the south end of the base bears S. 56° 12' E., therefore tan. 56°12' x base or 1.493 x 8 = 11.95 chs. which added to 69.05 chs. makes 81.00 chs. or
1.00 between secs. 16 & 21 on right bank of Grand river.
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 16 & 21 marked on brass cap
T22S R24E S16 on N. half and
MC S21 on S. half, dig pit. 36 x 36 x 12 ins., W. of post, 8 ft. dist., and raise and mound of earth 4 ft. base, 2 ft. high W. of cor. Land mountainous with steep N. slopes, soil rocky 4th rate with rocky sub-soil. No timber. No Undergrowth.
Mountainous land 69.05 chs.

November 7: At 7h. 44m a.m. l.m.t. I set off 38°54' on the lat. arc., 16°06' S. on the decl. arc., and determine a meridian with the solar at the meander cor. of fracl. secs. 16 & 21.
Thence I run
N. 0°02' W., on offsett line bet. secs 15 & 16
2.83 chs., then offsett East 1.00 ch. to true line bet wen secs. 15 & 16 on right bank of Grand river.
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 15 & 16 marked on brass cap.
T22S R24E. on N. half,
S15 on E. half and
MC S16 on W. half.

Subdivision of T. 22 S., R. 24 E.

Chains	
	dig pit, 36 x 36 x 12 ins. N. of post, 8 ft. dist., and raise a mound of earth, 4 ft. base; 2 ft. high N. of cor.
	Thence S run
	N. 0° 02' W., bet. secs. 15 & 16. counting distances from true corner point.
7.83	The meander cor. of fracl. secs. 15 & 16.
	Begin ascent of steep rocky land facing SE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 16 on W. half and S 15 on E. half, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable.
46.00	Spur, 275 ft. above meander cor. projects E.
	Descend 75 ft. to
52.25	Hollow, drains E.
	Ascend 125 ft. to
68.40	Spur, projects SE.
	Descend 75 ft. to
72.00	Wash in hollow, drains SE.
	Thence over rocky land draining W.
77.10	Same hollow, drains SW.
	Ascend:
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 9, 10, 15 & 16, marked on brass cap T 22 S S 9 in NW., R 24 E S 10 in NE., S 15 in SE. and S 16 in SW. quadrant, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable

Chains	
	Land mountainous with general SE. slope into Grand river. Soil rocky with rocky sub-soil, 4th rates. No timber No undergrowth Mountainous land 80.00 ch
	East, on true line bet. secs. 10 & 15 over mountainous land draining SE. descend
2.30	Wash in hollow, drains S. 60° W. Ascend 150 ft. to
17.00	Rocky knoll on ridge, bears NE. & SW. Descend abruptly 380 ft. over rocky land to
39.00	Rim of ledge, bears N. & SW. Descend 50 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone for 1/4 sec. cor. marked on brass cap 1/4 S 10 on N. half, and S 15 on S. half, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable. Gently descend over bench.
43.00	Wash, 20 lks. wide, 5 ft. deep, course SE.
46.00	Wash 50 lks. wide 7 ft. deep, course S.
50.50	Wash, 75 lks. wide, 20 ft. deep, course S.
59.25	Rim of ledge, 50 ft. high, bears N. & SW. Descend abruptly 140 ft. to
71.15	Right bank of Grand river Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl. secs. 10 & 15 marked on brass cap T 22 S R 24 E S 10 on N. half, and M C S 15 on S. half, from which A cottonwood, 6 ins. diam., bears

Subdivision of T. 22 S., R. 24 E.

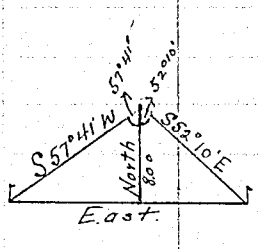
Chains	
	S. 65° 30' E. 17 lks. dist., marked M C T 22 S R 24 E S 15 B.T.
	a cottonwood, 6 ins. diam., bears N. 80° E., 22 lks. dist., marked M C T 22 S R 24 E S 10 B.T.,
	Land mountainous with general SE slope and drain.
	Soil rocky with hard clay and rocky sub soil 4th rate.
	No undergrowth.
	Timber a few, cottonwoods on river bank. Mountainous land 71.15 chs.
	Nov 7: At this cor. I set off 16°11' S. on the decl arc; and at 11h 44m a.m. l. m. t. observe the sun on the meridian, the resulting lat is 38°55'.
	N. 0° 02' W., bet. secs. 9 & 10
	Over mountainous land
	Ascend 125 ft. to
16.20	High ridge, bears N. 60° E & S 60° W.
	Thence over rolling mountain top over land sloping westward
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 9 on W. half, and S 10 on E. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
46.00	Ridge, bears NW & SE.
	Begin steep descent over NE face of ridge
80.00	400 ft below top
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of earth and stone for cor. of secs. 3, 4, 9 & 10 marked on brass cap T 22 S S 4 m NW.,

Chains.

R 24 E S 3 in NE.
S 10 in SE. and
S 9 in SW. quadrant,
and raise a mound of stone
2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
Note. on account of natural obstacles
I am unable to set post in the ground
I am unable to secure a base line at this point to triangula
across river
and mountainous with N &
S slopes of ridges and general west
slope of mount on top.
Soil rocky of volcanic formation.
with rocky sub soil. No timber
Undergrowth a short shadscale
November 7, 1910

November 8. At 7h 44m a.m. l.m.t.
I set off 38° 55' on the lat arc; 16°
23' S. on the decl. arc; and determine
a meridian with the solar at the
cor. of secs. 3, 4, 9 & 10.

Thence I run
East, on a random line bet. secs. 3 & 10
33.05 Right bank of Grand river, set
temporary meander cor.
To determine the distance across
river I set a flag on left bank
and also erect a flag at temporary
meander cor. on right bank. I then
place my instrument on line on
sand bar between the two flags
and measure a base line north
8 chs. to a point from which
the west flag bears S 57° 41' W., from
the flag the N. end of the base bears
N. 57° 41' E., therefore tan. 57° 41' x base or
1.581 x 8 = 12.65 chs + 33.05 chs = 45.70 chs.
to sand bar. From the N. end of



Subdivision of T. 22 S., R. 24 E.

Chains	
	the base the flag on left bank of river brars S. 52° 10' E., from the flag the North end of the base brars N 52° 10' W., therefore tan. 52° 10' x base or 1.2876 x 8 = 10.30 chs. + 145.70 chs =
56.00	To left bank of Grand river, set temporary meander cor.
80.00	Intersect N. & S. line at the cor. of secs. 2, 3, 10 & 11
	Thence I run
	West, on true line between secs. 3 & 10
	Over nearly level plowed land.
23.00	Leave plowed land brars N. & S.
24.00	Fence, brars N & S and left bank of Grand river
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fractional secs. 3 & 10 marked on brass cap
	MC T22S R24E S3 on N. half and S. 10 on S. half, dig pit, 36 x 36 x 12 ins., E. of post 8 ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high E. of cor.
46.95	To right bank of Grand river
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of fracl secs. 3 & 10 marked on brass cap.
	T22S R24E S3 on N. half, and MC S10 on S. half,
	and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Note: The 1/4 sec. cor. falls in river, no corner set.
	Begin ascent of steep rocky land sloping E.
62.00	Ridge, 275 ft. above river, brars N. 70° W., and SE.

Chains

Thence over rolling brush land
80.00 The cor. of secs. 3, 4, 9 & 10.
E. 24 chs. level land with rich sandy loam soil, and deep sand sut-soil. 1st rate. W. 33.05 chs mountainous land with steep E slope on E. 15.05 chs and gradual N. slope on W 18 chs. soil rocky, 4th rate. sandstone bed rock close to surface. Mountainous land 33.05 chs.
No timber No Undergrowth

November 12: At 7h 44m a.m. l.m.t. I set off 38°56' on the lat arc; 17°31' S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 9 & 10.

Thence Grun
N. 0° 02' W., on true line bet. secs. 3 & 4
Gradually descend over rolling mountain top.
110.00 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 4 on W. half and S 3 on E. half, and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
117.00 Ridge, bears W. and SE.
Begin descent over land facing N.
64.70 Wash, 30 lks. wide, 175 ft. below ridge, course E.
Ascend 100 ft to
85.30 Intersect N. bdy. of the tp. 8.13 chs. West of the cor. of secs. 33 & 34 heretofore described.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing corner of secs. 3 & 4. marked on brass cap.

Subdivisions of T. 22 S., R. 24 E.

Chains.

CC T 21 S R 24 E S 33 S 34 on N. half,
S 3 in SE. and
S 4 in SW. quadrant,
and raise a mound of stone,
2 ft. base, 1½ ft. high S. of corner.
Pits impracticable.
Land mountainous with N. slope
on S 69.70 chs and S slope on N.
15.60 chs. and with a general east
drain. Soil rocky of volcanic
formation and sub soil of hard
baked clay and rocks, 4th rate
No timber
Some short chaparral undergrowth

November 10: At 8h 44m a.m. l.m.t.
I set off 38° 54' on the lat. arc; 170 00' S.
on the decl. arc; and determine a
meridian with the solar at the
meander cor. of fractional secs.
16 & 21,
Thence I run
West, on sectional correction line bet
secs. 16 & 21, Counting distances from
true corner point.

1.00 The meander cor. of fracl. secs. 16 & 21
on right bank of Grand river.
Ascend abruptly east face of
ridge over series of ledges.

14.25 Ridge, 225 ft. above meander, cor.,
bears N. & S.
Descend 100 ft. to

35.00 Wash in hollow, drains SW.
Ascend 75 ft. to

37.50 Ridge, bears N. & S.
Gradually descend.

40.00 Set an iron post, 3 ft. long, 1 in. in
dia., 16 ins. in the ground for 1/4 sec.
cor., marked on brass cap 1/4 S 16
on N. half, and S 21 on S. half,

Chains.	
	and raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
50.60	Wash in hollow, drains S.
	Ascend 75 ft. to
61.00	Ridge, bears N. & S.
	Descend 60 ft. to
65.70	Hollow, drains S.
	Ascend 25 ft. to
67.00	Ridge, bears N. & S.
	Descend 50 ft. to
70.50	Wash in hollow, drains S.
	Thence over rocky land facing S
80.00	Leave rocky land, bears NW. & SE.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 16, 17, 20 and 21, marked on brass cap
	T 22 S S 17 in NW.,
	R 24 E S 16 in NE.,
	S 21 in SE. and
	S 20 in SW. quadrant,
	dig pits, 24 x 24 x 12 ins. in each sec., 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	E. 14.75 chs. E. face rocky ridge W.
	65.75 chs. broken mountainous land with general South drain
	Soil, rocky with rocky sub-soil, 4th rates. Undergrowth, shadscale. No timber. Mountainous land 80.00 chs
	S. 0° 03' E., on true line, bet. secs. 20 & 21.
	Over level bottom land, through undergrowth of greasewood.
2.50	Cisco Wash, 70 lks. wide, 15 ft. deep, course SE.
18.00	Leave bottom land and undergrowth, bears E. & W.

Chains	
	Ascend 50 ft. to
20.50	Spur, projects E.
	Descend 45 ft. to
24.50	Hollow, drains, N. 70° E.
	Gradually ascend.
36.00	Spur, projects E.
	Gradually descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 20 on W. half and S 21 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist.; and raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.
45.00	Hollow, drains E.
	Ascend gradually
53.80	Spur, projects E.
	Descend
56.30	Hollow, drains E.
	Ascend 75 ft. to
61.50	Ridge, bears NW & SE.
	Descend 75 ft. to
80.90	Wash, 8 lks. wide, 3 ft. deep, course SE.
	Ascend.
82.21	Intersect E. and W. line 1.79 chs. N. 88° 36' E. of the cor. of secs. 20, 21, 28 and 29 heretofore described
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 20 & 21, marked on brass cap.
	T 22 S S 20 in NW., and R 24 E S 21 in NE, quadrant S 29 S 28 CC in S. half,
	dig pits, 24 x 18 x 12 ins., crosswise on each line, E. and W. 3 ft., and N. of post, 8 ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high N. of cor.

Chains

I destroy all marks on old cor. pertaining to secs. 20 & 21.
Land hilly and level with south easterly drain.
Soil adobe clay with a hard clay sub-soil, 3rd rate.
Undergrowth dense greasewood on N. 18 chs. No timber.
November 10: At this cor. I set off 17°03' S. on the decl. arc; and at 11h 44m. a.m. l.m.t. observe the sun on the mer; the resulting lat. is 38° 53'

N 0° 03' W., bet. secs. 16 & 17.
Ascend over rocky mountainous land facing SW.
36.00 Spur, 250 ft. above cor., projects W.
Descend.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on W. half and S 16 on E. half, and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable.
42.30 Wash in hollow, 75 ft. deep, drains S. 60 W.
Ascend 175 ft. to
52.00 Ridge, bears E. and W.
Descend 150 ft. to
69.00 Wash in hollow, 20 lks. wide, course SW.
Ascend abruptly 175 ft. over SW slope to
80.00 Top ridge, bears E. & W.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins in a mound of earth and stone for cor. of secs. 8, 9, 16 & 17, marked on brass cap
T 22 S S 8 in NW.,

Subdivision of T. 22 S., R. 24 E.

Chains.	
	R 24 E S 9 in NE., S 16 in SE. and S 17 in SW. quadrant, and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Note: On account of natural obstacles I am unable to set post in ground. Land mountainous with a general SW. slope, soil rocky of volcanic formation, sub soil rocky with solid bed rock close to surface. Undergrowth a short chaparral. No timber. Mount'nous land 80.00 ch. November 10, 1910
	November 11: At 7h 44m a.m. l.m.t. I set off 38° 55' on the lat. arc. 17° 15' S. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 8, 9, 16 & 17.
	Thence I run East, on a random line, bet. secs. 9 & 16.
40.00	Set temporary ¼ sec. cor.
80.02	Intersect N. & S. line at the cor. of secs. 9, 10, 15 & 16.
	Thence I run West, on true line bet. secs. 9 & 16. Over rolling mountainous land. Gradually ascend 70 ft. to
17.00	Ridge, bears NE. and SW. Descend.
28.00	On north side of edge of canyon, course SW.
40.01	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., marked on brass cap. ¼ S 9 on N. half and S. 16 on S. half, and raise a mound of stone, 2 ft.

Chains	
	base, 1½ ft. high N. of cor.
	Pits impracticable
61.00	Wash in hollow, 15 lks. wide, 150 ft. deep, course SW.
	Ascend 125 ft. to
72.00	Ridge, bears W. + NE.
80.02	The cor. of secs. 8, 9, 16 + 17.
	E. 17 chs. SE slope of mountain draining SE. W 63 chs. SW slope of high ridge draining to the SW. Soil rocky of volcanic formation with rocky sub-soil, 4th rate Undergrowth a short chaparral No timber. Mountainous land 800 x chs
	N. 0° 03' W., bet. secs. 8 + 9.
	Over mountainous land.
	Descend abruptly 100 ft. to
5.75	Wash in hollow, 10 lks wide, course W.
	Ascend 100 ft. to
12.00	Rocky ridge, bears N. 70° E. and W.
	Descend 125 ft. to
32.00	Wash in hollow, 8 lks. wide, course W.
	Ascend 75 ft. to
40.00	Ridge, bears E. + W
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S. 8 on W. half and S 9 on E. half, raise a mound of stone, 2 ft. base 1½ ft. high W. of cor.
	Pits impracticable
	Descend 75 ft. to
51.50	Wash in hollow, 8 lks. wide, course W.
	Ascend 75 ft. to
73.00	Ridge, bears E. and W.
	Gradually descend 50 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. in dia, 24 ins. in the ground for cor. of secs. 4, 5, 8 and 9, marked on brass cap

Subdivision of T. 22 S., R. 24 E.

Chains.	
	T 22 S S 5 in NW., R 24 E S 4 in NE., S 9 in SE. and S 8 in SW., quadrant, raise a mound of stone, 2 ft base, 1½ ft. high, W. of cor. Pits impracticable. Land mountainous draining W. and with a general W. slope. Soil rocky of volcanic formation with rocky sub-soil and bed rock close to surface. 4th rates. No timber Undergrowth a short chaparral. Mountainous land 30.00 chs. November, 11. At this cor. I set off 17° 20' S. on the decl. arc; and at 11h 44m a. m. l. m. t., observer the sun on the meridian, the resulting lat is 38° 55'
	East, on a random line, bet. secs. 4 & 9
40.00	Set temporary ¼ sec. cor.
80.04	Intersect N. & S. line at the cor. of secs. 3, 4, 9 & 10
	Thence I run
	West, on true line bet. secs. 4 & 9.
	Gradually ascend over rolling mountainous land sloping NE.
31.00	Ridge, 100 ft. above sec. cor., bears NW. and SE.
	Descend 150 ft. to
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., marked on brass cap ¼ S 4 on N. half and S 9 on S. half, and raise a mound of stone, 2 ft base, 1½ ft. high N. of cor. Pits impracticable.
41.40	Wash in hollow, 15 lks wide, course North.
	Thence ascend over rocky land sloping

Subdivision of T. 22 S., R. 24 E.

Chains	
	NE.
56.60	Ridge, 200 ft. above wash, bears NW. and SE.
	Thence over land sloping nearly north, gradually descending
80.04	The cor. of secs. 4, 5, 8 & 9
	Land, mountainous, with general N. slope and drain.
	Soil, rocky of volcanic formation, sub-soil rocky 4th rates No timber Undergrowth a short shadscale
	Mountainous land, 80.04 chs. November, 11, 1910
	April 8: 1911, For solar observation see line bet. secs. 7 & 18.
	N. 0° 03' W., on true line bet. secs. 4 & 5
	Over mountainous land draining NW.,
	Descend 25 ft. to
1.20	Wash in hollow, drains NW.
	Ascend 75 ft. over land facing SW. to
11.00	Spur, projects NW.
	Descend 75 ft. to
17.80	Hollow and wash, drains NW.
	Ascend
20.00	Low ridge, bears NW & SE.
	Gradually descend
32.00	Begin abrupt descent over land facing N.
40.00	On rocky N. slope.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 5 on W. half and S 4 on E. half, and raise a mound of stone 2 ft. base, 1½ ft. high W. of cor
	Pits impracticable
	Continue to descend
47.60	Wash, 20 lks. wide, 75 ft. below 1/4 cor.
	Course East

Subdivision of T. 22 S., R. 24 E.

Chains.	
	Thence ascend over land facing SE.
50.60	Road to Andersons ferry, brars N. 60° E. and W.
62.00	Ridge, 100 ft. above wash, brars NE. and W.
	Thence descend over land facing N.
85.40	Intersect N. bdy. of the tp. 7.68 chs S. 89° 50' W., of the cor. of secs. 32 & 33 heretofore described.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 4 & 5, marked on brass cap
	CCT 21 S R 24 E S 32 S 33 on N. half, S 4 in SE. and S 5 in SW. quadrant,
	dig pits, 24 x 24 x 12 ins. crosswise on each line, E. and W., 3 ft., and S. of post, 7 ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high S. of cor.
	Land mount anous with NW & SE drains and general slopes of NW & SE.
	Soil rocky & adobe clay with a hard clay & rocky sub-soil, 4th rates. No timber
	Undergrowth, short, chaparral
	Mount anous land, 85.40 chs. April 8, 1911

April 7: At 7h 28m a.m. l.m.t., I set off 38° 54' on the lat. arc; 6° 35' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 16, 17, 20 & 21, heretofore described.

Thence I run

West, on sectional correction line bet. secs. 17 & 20.

Over level bottom land, through

Chains	
	dense undergrowth of greasewood
4.50	Asco wash, 60 lks. wide, 10 ft. deep, course SE.
	Leave wash bottom and dense undergrowth. brs NW & SE.
	Ascend abruptly 50 ft. to
8.00	Ridge, brs N. & SW.
	Descend 30 ft. to
11.10	Hollow, drains NE.
	Ascend 100 ft to
40.00	Spur, projects N.
	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on N. half and S 20 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist.; and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
	Descend 25 ft. to
43.85	Hollow, drains N.
	Ascend 50 ft. to
52.00	Ridge, brs N. & S.
	Gradually descend over west slope
55.30	Road from Asco, Utah to Dewey Utah, brs N. 20° E. and S. 20° W.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 17, 18, 19 & 20, marked on brass cap T 22 S S 18 in NW., R 24 E S 17 in NE., S 20 in SE. and S 19 in SW. quadrant, dig pits, 18 x 18 x 12 ins., in each sec., 5 1/2 ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	E. 52 chs. hilly land draining NE
	W 28 chs west slope of low ridge

Subdivision of T. 22 S., R. 24 E.

chains	
	Soil, adobe clay with hard clay sub soil, 3rd rate. No timber. Undergrowth, dense greasewood on E. 4.50 chs and short chadscale on W 75.50 chs
	S. 0°03' E., on true line bet. secs. 19 & 20 Over hilly land draining W.
13.25	Wash, 7 lks. wide, 7 ft. deep, course SW. Gradually ascend
20.25	Wash, 10 lks. wide, 2 ft. deep, course W. Ascend 35 ft. to
28.00	Low ridge, bears NE. and SW. Descend 50 ft. to
35.80	Hollow, drains SW. Ascend
36.15	Road from Cisco, Utah to Dewey, Utah, bears NE. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 19 on W half and S 20 on E. half, dig pits, 18 x 18 x 12 ins., N. & S. of post, 3 ft. dist., and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of corner
50.00	Low ridge, bears NE. and SW. Descend
56.00	Hollow, drains SW. Thence over series of small ridges and hollows bearing NE. and SW.
82.16	At south edge of hilly land and base of hills. Intersect E. and W. line, 1.99 lks S. 89°57' E. of the cor. of secs. 19, 20, 29 & 30 heretofore described Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins in the ground for closing cor. of secs. 19 & 20, marked on brass cap

Chain

T 22 S S 19 in NW. and
R 24 E S 20 in NE. quadrant,
and CC S 29 S 30 on S. half,
dig pits, 24 x 18 x 12 ins. crosswise
on each line, E. and W., 3 ft., and
N. of post 7 ft. dist.; and raise a
mound of earth, 4 ft. base, 2 ft.
high N. of cor.
I destroy all marks on old cor.
pertaining to secs. 19 and 20
Land hilly draining SW.
Soil adobe clay with hard clay
sub soil; 3rd rate. No timber
Undergrowth a short chaparral

Knowing that closing corners will
be necessary upon the W. bdy of the
tp, I run
West, on true line, bet. secs. 18 & 19
Gradually descend over rolling
land sloping W.

40.00 Set an iron post, 3 ft. long, 1 in. in
dia., 26 ins. in the ground for 1/4
sec. cor., marked on brass cap 1/4
S 18 on N. half and S 19 on S. half,
dig pits, 18 x 18 x 12 ins., E. and W.
of post, 3 ft. dist.; and raise a
mound of earth, 3 1/2 ft. base, 1 1/2
ft. high N. of corner.

49.00 Wash, 10 lks. wide, 10 ft. deep, course S,
and base of descent bears N. & S
Gradually ascend.

54.55 Old road, bears N. & S.

76.80 Wash, 10 lks. wide, 3 ft. deep, course SW

82.36 Intersect W. bdy. of the tp. 74 lks. N.
of the cor. of secs. 13, 18, 19 & 24
heretofore described.
Set an iron post, 3 ft. long, 2 ins. in
dia., 24 ins. in the ground for
closing cor. of secs. 18 and 19, marked

chains

on brass cap
T 22 S on N. half,
R 24 E S 18 S 19 on E. half, and
C C R 23 E S 13 S 24 on W. half,
dig pits, 24 x 18 x 12 ins., crosswise on each line, N. & S. 3 ft., and E. of post, 7 ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high E. of cor.
Land hilly and rolling draining S. with gradual E. & W. slopes. Soil, adobe clay, with a hard clay sub-soil, 3rd rate. No timber Undergrowth, some short chaparral

April 7: At the cor. of secs. 17, 18, 19, and 20, I set off 6° 38' N. on the decl. arc; and at 12h 02m p. m. l. m. t., observe the sun on the mer.; the resulting lat. is 38° 54'
N. 0° 03' W., bet. secs. 17 & 18.
Gradually ascend over rolling land sloping nearly west.

5.90 Wash, 5 lks. wide, 3 ft. deep, course west.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 18 on W. half and S 17 on E. half, dig pits 18 x 18 x 12 ins. N. & S of post 3 ft. dist, and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.

80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 7, 8, 17 & 18, marked on brass cap
T 22 S S 7 in NW.,
R 24 E S 8 in NE.,
S 17 in SE. and

Chains	
	S 18 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec., 5½ ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	Land rolling with westerly slope and drain.
	Soil, adobe clay with hard clay sub-soil, 3rd rate. No timber Undergrowth some short shadscale
	East, on a random line, bet. secs. 8 & 17
40.00	Set temporary ¼ sec. cor.
80.16	Intersect N. & S. line 12 lks. S. of the cor. of secs. 8, 9, 16 & 17
	Thence 2 run S. 89° 55' W., on true line bet. secs. 8 & 17
	Gradually descend along top of ridge
8.00	Leave ridge, descend abruptly 175 ft. to
15.60	Wash in hollow, 20 lks. wide, course SW.
	Ascend 150 ft. to
23.00	Ridge, bears NE. and SW.
	Thence descend over land sloping W.
40.08	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for ¼ sec. cor., marked on brass cap ¼ S 8 on N. half and S. 17 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
48.00	Wash, 15 lks. wide, 100 ft. deep, course S., and base of descent 100 ft. below ¼ cor.
	Leave rocky land thence over level bottom land through dense greasewood
52.30	Cisco wash, 90 lks. wide, 10 ft. deep, course S. 5 chs., thence SE.
63.80	Road from Cisco, Utah to Dewey

Subdivision of T. 22 S., R. 24 E.

Chains	
	Utah, bears N 30° E and SW.
	Leave bottom land, begin to ascend
76.00	Ridge, 75 ft. above wash, bears N. & S.
	Gradually descend 20 ft. to
80.16	The cor. of secs. 7, 8, 17 & 18.
	Land mountainous, and level, with E. and West slopes, draining S.
	Soil rocky and adobe clay with rocky and hard clay sub soils. 3rd and 4th rates. No timber.
	Undergrowth shadscale and dense greasewood on bottom land.
	Mountainous land on 6th. 36 chs.
	April 7, 1911

April 8: At 7h. 02m. a.m. l.m.t. I set off 38° 55' on the lat. arc., 6° 58' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 8, 17 & 18

Thence I run
West, on true line, bet. secs. 7 & 18.
Gradually descend over rolling land sloping W.

20.90	Wash, 5 lks. wide, 3 ft. deep, course S.
30.10	Wash, 10 lks wide, 3 ft. deep, course S. 20° E.
	Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins., in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 7 on N. half and S 18 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist.; and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
50.00	Thence over broken hilly land.
70.05	Old road, bears N. & S.
78.10	Wash, 5 lks. wide, 3 ft. deep, course S.

Chains	
82.33	Intersect W. bdy of the tp 76 lks. N. of the cor. of secs. 7, 12, 13 and 18 heretofore described. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 7 & 18, marked on brass cap T 22 S on N. half, R 24 E S 7 S 18 on E. half, and CC R 23 E S 12 S 13 on W. half, dig pits, 24 x 18 x 12 ins., crosswise on each line, N. & S. 3 ft., and E. of post, 7 ft. dist.; and raise a mound of earth 4 ft. base, 2 ft. high E. of cor. I destroy all marks on old cor. pertaining to secs. 7 & 18. Land rolling and broken. Soil adobe clay with a very hard clay sub soil. 3rd rate Undergrowth, short chaparral. No timber.
	N. 0° 03' W., bet. secs. 7 & 8 Gradually ascend over hilly land draining W.
20.00	Low ridge, bears N. 20° W. and S. 20° E. Descend 75 ft. to
26.00	Enter level bottom land and dense undergrowth of greasewood, bears N. 20° W., and S. 20° E.
29.40	Asco wash, 75 lks. wide, 20 ft. deep, course S. 30° E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 7 on W. half and S. 8 on E. half, dig pits, 18 x 18 x 12 ins. N. & S of post, 3 ft. dist.; and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.

Subdivision of T. 22 S., R. 24 E.

Chains.	
67.20	Cisco wash, 30 lks. wide, 10 ft. deep, course W.
68.30	Same wash, course SE.
76.00	Wash, 10 lks. wide, 10 ft. deep, course SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for Cor. of secs. 5, 6, 7 & 8, marked on brass cap T 22 S S 6 m NW., R 24 E S 5 m NE., S 8 m SE. and S 7 m SW. quadrant, dig pits, 18 x 18 x 12 ins., in each sec., 5½ ft. dist; and raise a mound of earth, 4 ft. base, 2 ft. high W. of Cor. Land hilly and level, draining SW on S. 20 chs and SE. on N 60 chs. Soil, gravelly and adobe clay with hard clay sub-soil. Undergrowth short shadscale on S. 26 chs and dense greasewood on N 54 chs. No timber April 8: At this sec. cor. I set off 7°01' N. on the decl. arc, and at 12h 02m. g. m. l. m. t. observe the sun on the mer., the resulting lat is 38°56
	N. 89° 55' E., on a random line, bet secs. 5 & 8
40.00	Set temporary ¼ sec. cor.
80.20	Intersect N. & S. line 3 lks. N. of the cor. of secs. 4, 5, 8 & 9. Thence I run S. 89° 56' W., on true line, bet. secs. 5 & 8. Gradually descend over mountainous land sloping nearly north.
25.80	Wash, in hollow, drains NW.
	Ascend
30.50	Ridge, trans NW. & SE.

Chains	
	Descend 50 ft. to
40.10	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone, 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap. 1/4 S 5 on N. half, and S 8 on S. half, and raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
	Note: on account of natural obstacles I am unable to set post in the ground.
	Continue to descend.
72.00	Road, from Cisco, Utah to Dewey, Utah, bears NE. & SW.
73.00	Wash in hollow, 125 ft. below 1/4 cor., course SW.
	Thence over south point of long low ridge bearing NE.
80.20	The cor. of secs. 5, 6, 7 & 8.
	Land mountainous with NW slope.
	Soil rocky and clay with rocky & hard clay sub-soil. No timber Undergrowth shadscale and some scattering greasewood.
	Mountainous land 80.20 chs
	April 10: At 8h 02m a.m. l. m. t. I set off 38° 56' on the lat. arc, 7° 43' N. on the decl. arc: and determine a meridian with the solar at the cor. of secs. 5, 6, 7 & 8.
	Thence I run West, on true line, bet. secs. 6 & 7. Over nearly level bottom land, through dense undergrowth of greasewood.
18.20	Cisco wash, 75 lks. wide, 15 ft. deep, course South

Subdivision of T. 22 S., R. 24 E.

Chains

22.00 Leave nearly level land and dense undergrowth, begin ascent over land facing E., bears N. & S.

36.00 Ridge, 75 ft. above wash, bears NW- and SE.

Thence over rolling clay hills.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 6 on N. half and S 7 on S. half, dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., and raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.

82.27 Intersect W. bdy. of the tp. 75 lks. N. of the cor. of secs. 1, 6, 7 & 12 heretofore described.

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

T 22 S on N. half,
R 24 E S 6 S 7 CC on E. half and
R 23 E S 1 S 12 on W. half,

dig pits, 24 x 18 x 12 ins., crossurse on each line, N. & S. 3 ft., and E. of post 7 ft. dist., and raise a mound of earth, 4 ft. base, 2 ft. high E. of cor. I destroy all marks on old cor. pertaining to secs. 6 & 7

E. 22 chs. nearly level bottom land soil sandy loam & alkali clay 2nd rate with sub-soil of hard clay Undergrowth of greasewood. W

60.27 chs. rolling clay hills draining Northward, soil an alkali clay with hard shale clay sub-soil. Undergrowth short shadscale

No timber

N 0° 03' W., bet. secs. 5 & 6.

Gradually ascend over gently

Chains	
	rolling land, through scattering undergrowth of greasewood.
6.10	Wash, 10 lks. wide, 10 ft. deep, course SW.
19.00	Wash 5 lks. wide, 5 ft. deep, course SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 6 on W. half and S 5 on E. half, dig pits, 18 x 18 x 12 ins. N. and S. of post 3 ft. dist.; and raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
	Begin ascent over hilly land facing S.
62.00	Top of ascent and ridge, 100 ft. above 1/4 sec. cor., bears E. & W.
	Gradually descend over land facing N.
85.52	Intersect N. bdy. of the tp. 7.75 chs. N. 89° 54' W., of the cor. of secs. 31 & 32 heretofore described.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 5 & 6 marked on brass cap
	CC T 21 S R 24 E S 31 S 32 on N. half, S 5 in SE. and S 6 in SW. quadrant., dig pits, 24 x 18 x 12 ins., crosswise on each line, E. & W. 3 ft., and S. of post 7 ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high S. of cor.
	S. 40 chs. gently rolling land with gentle SW. slope, soil adobe clay with hard clay sub-soil. 3rd rate. N. 45.52 chs. hilly land with N. & S. slopes. Soil an alkali clay with a hard shale sub soil, Undergrowth Shadscale and greasewood. No timber.

Retracement of sub-divisions T. 22 S., R. 24 E.

Nov. 1: For solar observation see line between secs. 34 & 35.
From the cor. of secs. 3, 4, 33 & 34 heretofore described I run
North, retracing line, bet. secs. 33 & 34
38.51 Fall 53 lks. E. of the 1/4 sec. cor., which is a sandstone 36 x 22 x 5 ins., firmly set in a mound of stone, and marked and witnessed as described by the Surveyor General. The true bearing of the line is N. 0° 47' W., and the distance is 38.51 chs. From the 1/4 sec. cor. I continue North,
40.00 Fall 31 lks. W. of the cor. of secs. 27, 28, 33 & 34 which is a sandstone 12 x 14 x 6 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General. I Destroy all traces of the old cor., and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 27, 28, 33 & 34 marked on brass cap,

T 22 S S 28 in NW.,
R 24 E S 27 in NE.,
S 34 in SE. and
S 33 in SW. quadrant,

and raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable.
The true bearing of this line is N. 0° 27' E., and the distance is 40.00 chs

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Nov. 2: For solar observation see line bet. secs. 22, & 27.
From the cor. of secs. 27, 28, 33 & 34 I run

chains.

North, retracing bet. secs. 27 & 28.

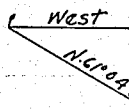
40.45 Fall 20 lks. E. of the 1/4 sec. cor., which is a sandstone 6 x 10 x 8 ins., above ground, firmly set, and marked and witnessed as described by the Surveyor General.
The true bearing of this line is N. 0° 17' W., and the distance is 40.45 chs. from the 1/4 sec. cor. I continue North,

40.70 Fall 23 lks. E. of the cor. of secs. 21, 22, 27 & 28 which is a sandstone 10 x 10 x 9 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General.
I destroy all traces of the old cor. and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 21, 22, 27 and 28.
Marked on brass cap
T. 22 S S 21 in NW.,
R 24 E S 22 in NE.,
S 27 in SE. and
S 28 in SW. quadrant,
and raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
Pits impracticable
The true bearing of this line is N. 0° 20' W., and the distance is 40.70 chs

Nov. 3: For solar observation see line bet. secs. 15 & 22.
From the cor. of secs. 21 and 28. heretofore described, I run West, retracing line bet. secs. 21 & 28.

38.00 After careful search I am unable to find any trace of old meander cor. on left Bank of Grand river.

39.80 Left bank of Grand river. Set temporary meander cor.
To determine distance across river, I set a flag on right bank and measure a base South 7.51 chs. to a point from which flag bears N. 61° 04' W., from the flag the south end of the base bears S 61° 04' E., therefore tan 61° 04' × base or 1.809 × 7.51 chs = 13.58 chs. which added to 39.80 =



53.38 to right bank Grand river. Set temporary meander cor.
No trace of the old meander cor could be found.

81.38 Fall 197 lks. N. of the cor. of secs. 20, 21, 28 & 29 which is a sandstone 20 × 10 × 10 ins., marked and witnessed as described by the Surveyor General.
I destroy all traces of the old cor., and reestablish it at the same point as follows.
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 20, 21, 28 & 29, marked on brass cap

T 22 S S 20 in NW.,
R 24 E S 21 in NE.,
S 28 in SE. and
S 29 in SW. quadrant,

raise a mound of stone, 2 ft. base,

Chains.	
	1½ ft. high W. of cor.
	Pits impracticable
	Thence I run
	N. 88° 36' E., resurveying bet. secs. 21 & 28
	Descend over hilly land facing SE
2.20	Wash, 8 lks. wide, 2 ft. deep, course SE
	Ascend
7.00	Spur, projects S.
	Descend 70 ft. to
13.00	Base of descent, bears N. & S.
	Enter cottonwood timber bears N. & SW.
14.20	Wire fence, bears NW. and SE.
16.70	Cisco wash, 140 lks. wide, 30 ft. deep, course S 5 chs. thence S. 80° E.
	Enter dense chaparral undergrowth
27.98	Right bank of Grand river
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of frac. secs. 21 & 28 marked on brass cap
	T 22 S R 24 E S 21 on N. half and MC S 28 on S. half; from which
	A cottonwood, 12 ins. diam., bears N 45¾° E., 264 lks. dist., marked MC T 22 S R 24 E S 21 BT.
	A cottonwood, 18 ins. diam., bears S. 44¾° E., 82 lks. dist., marked MC T 22 S R 24 E S 28 BT
41.56	Left bank of Grand river
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for meander cor. of frac. secs. 21 & 28 marked on brass cap
	T 22 S R 24 E MC S 21 on N. half, and S. 28 on S. half, from which
	A Cottonwood, 12 ins. diam., bears N 5½° W., 60 lks. dist., marked

Resurvey Subdivisions of T. 22 S., R. 24 E.

Chains	
	M C T 22 S R 24 E S 21 B T A cottonwood, 16 ins. diam., bears S 43 3/4° W. 2.48 lks. dist., marked M C T 22 S R 24 E S 28 B T. Gradually ascend over land sloping W.
81.40	The cor. of secs. 21 & 28
	Land hilly and level draining E on West 27.95 chs. and West on E. 40.00 chs. Soil gravelly and sandy loam with rich loam sub-soil. 1st rate Undergrowth; chaparral. Timber cottonwoods
	Resurvey of lines bet. secs. 20 & 29 and bet secs. 19 & 30 commenced April 3, 1911 and executed with a W. & L. E. Gurley solar compass No. 10143. For description of instrument see book "A" of this survey. The instrument was examined, tested on the true meridian at Salt Lake City, found correct, and was approved by the Surveyor General for Utah, March 29, 1911. I examine the adjustments of the instrument and correct the level and collimation errors, then, to test the solar apparatus by comparing its indications resulting from solar observations made during a. m. and p. m. hours with a meridian determined by observations made on Polaris I proceed as follows: At the cor. of secs. 28 & 29 heretofore described in lat. 38° 53' N.,

Chain.

longitude 109° 18' 40" W., I set off 38° 53' on the lat. arc; 5° 12' N. on the decl. arc; and at 4h. 33m. p.m. l.m.t., determine with the solar a meridian and mark the point in the line thus determined by a nail driven in a wooden peg set firmly in the ground 5 chs N. of the cor.

At 8h. 10m. p.m. by my watch which carries correct local mean time I observe Polaris and mark the direction thus determined by a tack driven in a stake firmly set 5 chs. N. of the cor.

Astronomical local mean time of Obs. April 3		8h	10m
W. C. Polaris April 1	= 0h	51.2m	
Red. to April 3	=	7.9	
W. C. Polaris April 3	= 0	43.3	0 43.3
Hour angle of Polaris & time argument	=	7	26.7

Azimuth of Polaris at obs = 1° 21' W.

April 3, 1911

April 4: At 6h 45m a.m. l.m.t., I lay off the azimuth of Polaris 1° 21' to the east, and find that the Polaris meridian agrees with the solar meridian of April 3.

At 7h. 33m a.m. l.m.t. I set off 38° 53' on the lat. arc. 5° 26' N. on the decl. arc; and determine a meridian with the solar. This meridian also agrees with the Polaris meridian and the solar meridian of April 3.

I therefore know that my instrument is in perfect adjustment. The magnetic bearing of the true mer. at 8h am. is N. 15° 30' W.; the angle thus determined gives the

Resurvey of Subdivision of T. 22 S. R. 24 E

Chains	
	Magnetic decl. 15° 30' E.
	From the cor. of secs. 28 & 29
	West, 0 retracing line bet. secs. 20 & 29
40.00	No trace of the 1/4 sec. cor. can be found.
80.22	Intersect N. and S. line 8 lks. S. of the cor. of secs. 19, 20, 29 & 30 which is a conglomerate stone 6 x 10 x 6 ins. above ground, firmly set and marked and witnessed as described by the Surveyor General.
	I destroy all traces of the old cor and reestablish it at the same point as follows.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 19, 20, 29 & 30
	Marked on brass cap
	T 22 S S 19 in NW.,
	R 24 E S 20 in NE.,
	S 29 in SE. and
	S 30 in SW. quadrant,
	dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist.; and raise a mound of earth, 4 ft. base, 2 ft. high W. of cor;
	Thence I run
	S. 89° 57' E., resurveying bet. secs. 20 & 29.
	Over nearly level land sloping S. at base of low hills.
10.00	Begin ascent over hilly ground sloping SW.
37.25	Low knoll on ridge, bears N. & S.
	Descend 50 ft to
40.00	Set an iron post, 3 ft. long, 1 in in dia., 26 ins. in the ground

Chain

for 1/4 sec. cor., marked on brass cap 1/4 S 20 on N. half and S 29 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., and raise a mound of earth, 3½ ft. base, 1½ ft. high N. of cor.

14.00 Hollow, drains S.
Gradually ascend

56.00 Low ridge, bears N. 30° E. and S. 30° W.
Thence over hilly land sloping S.

80.22 The cor. of secs. 20, 21, 28 & 29.
Land hilly with general S. slope and drain. Soil gravelly and an alkali clay with hard clay sub soil, 3rd rate. Undergrowth short chaparral. No timber

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West, retracing line bet. secs. 19 & 30

40.00 No trace of old 1/4 sec. cor. can be found.

80.15 Intersect West bdy. of the tp. 149 chs. S. of the cor. of secs. 19, 24, 25 and 30 which is a limestone 24 x 12 x 6 ins. lying on the ground marked with 5 notches on one edge & 4 notches on opposite edge.
I destroy all traces of the old cor. and reestablish it at the same point as follows.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 19, 24, 25 & 30, marked on brass cap

T 22 S on N. half
R 23 E S 24 in NW.,
R 24 E S 19 in NE.,
S 30 in SE. and
S 25 in SW. quadrant

dig pits, 24 x 24 x 12 ins., in each

Resurvey of subdivisions of T. 22 S. R. 24 E.

Chains.	
	sec. 5½ ft. dist., and raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	Thence Drum
	S. 88° 57' E., resurveying bet. secs. 19 & 30 Gradually descend over rolling ground sloping E.
22.00	Enter level land and dense greasewood undergrowth brars N. & S.
40.46	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 19 on N. half and S. 30 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., and raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
50.00	Sagers wash, 300 lks. wide, 20 ft. deep course S. 85° E.
52.70	Wash, 150 chs. wide, 15 ft. deep, course S.
57.00	Wash, 40 lks. wide, 15 ft. deep, course S.
58.50	Wash, 40 lks. wide, 20 ft. deep, course SE.
65.65	Road from Cisco, Utah to Dewey, Utah, brars NW. and SE.
80.46	The cor. of secs. 19, 20, 29 & 30. Land rolling and level, soil alkali clay land gravelly with hard clay sub soil, Undergrowth dense greasewood on E 58.46 chs. and short shadscale on W. 22 chs. No timber.

Meanders, T. 22 S., R. 24 E.

Meanders of left bank of Grand river, up stream
I commence at the meander cor. of fracl. secs. 21 & 28 - 39.85 chs. S. 88° 36' W. of the cor. of secs. 27 & 28 heretofore described.
Nov. 3; For solar observation see line bet. secs. 15 & 22.
At this meander cor. I set off 14° 57' S. on the decl. arc; and at 11h 44m. a. m. l. m. t., observe the sun on the mer.; the resulting lat is 38° 53'
Thence I run with meanders in sec. 21.
Thru dense willow undergrowth
N. 22 1/4° E. 3.80 chs.
N. 36 1/4° E. 23.00 chs. At 21 chs. mouth of wash. 75 lks. wide, course W. Leave dense undergrowth.
N. 54° E. 13.20 chs.
N. 29° 15' E. 25.60 chs. At 400 chs. mouth of wash, 50 lks. wide, course W.
N. 40° 37' E., 3.44 chs. To meander cor. of fracl. secs. 21 & 22
Land, river bottom.
Soil, alluvial: 1st rate
Undergrowth, dense willow on S 26.80 chs.
No timber

Thence in sec. 22.
Through dense willow and chaparral undergrowth
N. 27 3/4° E., 8.10 chs.
N. 60° E., 3.00 chs.
N 14° 30' E., 18.40 chs. To meander cor. fracl. secs. 15 & 22.
Land, level.

Meanders, T. 22 S., R. 24 E.

Soil; rocky and rich loam; 4th & 1st rates
Undergrowth, willow and chaparral
November 3, 1910

November 4; For solar observation see line bet. secs. 12 & 13.
From the meander cor. of fract. secs. 15 & 22 heretofore described. Run with meanders in sec. 15.
Along sandy bank through dense willow undergrowth.

N. 4 1/2° E.,	10.70 chs.	
N. 34 1/2° W.,	4.30 chs.	
N. 9° 45' W.,	9.50 chs.	
N. 9° E.,	6.00 chs.	
N. 39° E.,	6.70 chs.	
N. 61° E.,	12.10 chs.	
N. 67° 45' E.,	13.50 chs.	
N. 77° 30' E.,	12.90 chs.	At 8 chs. wash, 50 lks. wide, course N.
N. 86° E.,	8.00 chs.	At 8 chs the west end of small island 1 1/2 chs wide bears N. 4° W 3 chs. dist.
N. 49 1/2° E.	15.00 chs.	At 50 lks. wash 15 lks wide, course NW. At 13.00 chs. E. end of island bears N. 40 1/2° W 2 chs. dist
N. 8 1/2° E	9.50 chs.	Bank. 10 ft. high
N. 47 1/2° E.,	8.00 chs.	Enter cottonwood timber, leave under-growth
N. 59° 15' E	5.30 chs.	To meander cor

Chains

of fracl. secs. 14 & 15.
Land, level river bottom.
Soil, clay and rich loam. 1st rate
Undergrowth willow
Timber some cottonwoods
November 4, 1910.

November 9: At 7h 44m a.m.l.m.t. I set off 38° 55' on the lat. arc; 16° 44' S. on the decl. arc; and determine a meridian with the solar at the meander cor. of fracl secs. 15 & 16. heretofore described
Thence I run with meanders in sec. 14.
Over level river bank through dense cottonwood timber and undergrowth of chaparral
N. 75° 06' E., 12.97 chs. At 8 chs leave timber, bears N. & S. To meander cor. fracl. secs 11 & 14.

Land, level.
Soil, sandy loam; 1st rate
Timber, cottonwoods on 8 chs.
Undergrowth dense chaparral.
12.97 chs

Thence in sec. 11.
Over level land through dense chaparral undergrowth.
N. 74½° E., 29.90 chs. Leave undergrowth
N. 73° E., 20.80 chs. At 3 chs. Spring branch, 2 lks. wide, course N.
N. 56° E. 27.90 chs At 10 chs. wash 20 lks. wide course N.

N. — At 14 chs. wash, 10 lks. wide, course N. At 27 chs. top 10 ft. bank and sharp bend of river.

N. 33 1/2° W., 8.90 chs.

N. [illegible], Thence over sandy bank.

N. 26 1/4° W., 6.50 chs.

N. 10° W., 10.50 chs. At 8.70 chs. mouth of Coach Creek, 1 ch. wide, course W.

N. 59 1/2° W. 32.00 chs. 15 chs. wash, 25 lks. wide, course S.

N. 85° 47' W., 21.15 chs. At 10 chs. wash, 10 lks. wide, course S. To meander cor. fracl. secs. 10 & 11 16.40 chs. S. 0°01' E. of the cor. of secs. 2, 3, 10 & 11.

Land, level.
Soil, sandy loam; 1st rate
Undergrowth chaparral on 29.0 chs.
A few scattering cottonwoods.

Thence in sec. 10.
Over level bank through dense willow and chaparral undergrowth and scattering cottonwood timber
S. 87° W., 10.80 chs.
N. 67° W., 7.50 chs.
N. 38° 45' W., 8.80 chs.
N. 6° W. 7.32 chs. to meander cor. fracl. secs. 3 & 10

Land, level,
Soil, sandy loam; 1st rate.
Timber, cottonwood

Undergrowth Chaparral

Thence in sec. 3.
Through dense willow and chaparral undergrowth over stony bank.
N. 39° W., 4.80 chs.,
N. 6¼° W., 4.00 chs.,
N. 1° W., 8.70 chs.,
N. 10½° E., 4.00 chs.,
N. 17 ¾° E., 10.60 chs., At 8.50 chs. Andersons pumping plant, bears E. 1 ch.
N. 18½° E., 17.00 chs. At 8 chs. Andersons house bears E. 6 chs. At 12.00 chs. Anderson's ferry across Grand river. At 12.50 chs. fence bears E. Barn also bears E. 2 chs. Enter cottonwood timber
N. 52° E., 5.00 chs.,
N. 69° E., 6.40 chs.,
N. 79¼° E., 5.10 chs.,
N. 73° 30' E. 3.34 chs. To meander Cor. fracl. secs. 2 & 3.

Land, level river bottom.
Soil, stony and rich loam; 1st and 3rd rates.
Timber cottonwood on 36.84 chs.
Undergrowth Chaparral & willow.
Nov. 9. At this meander cor; I set off 16°46' S. on the decl. arc; and at 11h 44m a.m. l.m.t. obs. the sun on the mer.; the resulting lat is 38° 56'.

Meanders, T. 22 S., R. 24 E.

Nov. 5: For solar observation see line bet. secs. 1 & 2.
Thence in sec. 2.
Through dense undergrowth of willow and cottonwood timber
N. 67° E., 14.60 chs. At 2 chs. the west end of a small island bears N. 23° W. 2.50 chs. dist.
N. 82° E., 3.80 chs.,
N. 71° E., 9.10 chs.,
N. 31° E., 10.90 chs., At 1 ch. the east end of same island bears N. 59° W. 4 chs.
N. 42 1/4° E., 3.30 chs.,
N. 55 1/2° E., 14.50 chs.,
N. 62° 01' E., 5.41 chs. To meander cor. of fract. secs. 2 & 35.

Land, level.
Soil, sandy loam; 1st rate
Timber, cottonwood.
Undergrowth, willow.

Meanders of right bank of Grand river, down stream.
November 12: 1910: For solar observation see line between secs. 3 & 4.
From the meander cor. of fracl. secs. 2 & 35 on the right bank of Grand river, I run with meanders in sec. 2.
Over level bank through scattering undergrowth of willow.
S. 61½° W., 16.00 chs.
S. 80¾ W., 13.40 chs.
S 59° W., 14.06 chs. To meander cor. fracl. secs. 2 and 3.

Land, level,
Soil sandy, loam, 1st rate.
Undergrowth, scattering willow,
No timber
November, 12, 1910

November 8, 1910: For solar observation see line bet. secs. 3 & 10.
Thence in sec. 3.
Over stony bank.
S. 64½° W., 15.30 chs., At 7.00 chs. wash, 15 lks. wide, 7 ft. deep, course S.
S. 82° W., 11.30 chs., At 3.75 wash, 75 lks. wide 20 ft. deep, course S. and road from Cisco, Utah to Ferry, bears NW. & S.

N. 80° W., 10.70 chs.
S. 29° W., 8.00 chs.
S 75° W., 9.50 chs.,
S. 33° W., 8.00 chs.,
S. 7½° E., 8.10 chs.,
S 7° 19' E 37.95 chs., to meander cor fracl. secs. 3 & 10.

Meanders, T. 22 S., R. 24 E.

Land, level.
Soil, stony and gravelly; 3rd rate
No timber
No Undergrowth.

Thence in sec. 10.
Through scattering willow
undergrowth.
S. 25 3/4° E., 4.10 chs.
S. 54 1/2° E., 16.00 chs.,
S. 63° E., 16.20 chs.,
S. 68° E., 19.20 chs: To meander cor
fracl. secs. 10 & 11
27.35 chs. S. 0°01' E
of the cor. of secs
2, 3, 10 & 11.

Land, level,
Soil, rocky; 4th rate
Undergrowth, scattering willow
No timber

Thence in sec. 11.
S. 65 1/2° E., 17.30 chs.
S. 68 3/4° E., 23.00 chs.,
S. 46 1/2° E., 4.00 chs.,
S. 6° W., 9.00 chs.,
S. 40° W., 11.60 chs.,
S. 62° W., 23.30 chs., Enter scattering cottonwoods.
S. 81 1/4° W. 11.40 chs. to meander cor.
fracl secs. 10 & 11,
76.05 chs. S. 0°01' E.
of the cor. of secs.
2, 3, 10 & 11.

Land, level,
Soil, stony, 3rd rate
No undergrowth.
Timber, some, cottonwoods on
11.40 chs.

Thence m., sec. 10.
Through scattering cottonwood and dense willow undergrowth
S. 70° W., 4.90 chs.,
S. 60° W., 4.72 chs., to meander cor. frac. secs. 10 & 15.

Land, level.
Soil, stony, 3rd rate.
Timber, cottonwood.
Undergrowth, willow.
November 8, 1910

April 6, 1911 At 8h 03m a.m. l. m. t. I set off 38° 54' on the lat. arc; 6° 13' N. on the decl. arc; and determine a mer. with the solar at the meander cor. of frac. secs. 10 & 15.
Thence I run with meanders m. sec 15.
Over stony bank, through scattering undergrowth of willow.
S. 56° W., 9.00 chs.,
S. 35° W., 9.30 chs.,
S. 36½° W., 10.00 chs.,
S. 76° W., 16.00 chs., at 1 chs. wash, 10 lks. wide, course SE.
S. 71¾° W. 11.70 chs.
S 65° W., 12.70 chs. At 2.70 chs. wash, 15 lks. wide, course SE.
S. 43½° W., 14.00 chs.
S 15¼° W 12.00 chs. at 1 ch. wash, 10 lks. wide course S.
S. 1° E., 12.10 chs.
S. 11° W., 10.00 chs. to meander cor. frac. secs. 15 & 16, 77.17 chs. S. 0° 02' E of the cor. of secs. 9, 10 15 & 16.

Land, level,
Soil, stony, 3rd rate.

Undergrowth, willow.
Timber, a few scattering
cottonwoods.

Thence in sec 16.
Through dense willow undergrowth
S. 19° 30' W. 3.00 chs. To meander
cor., fracl. secs
16 & 21.
Land, level.
Soil, sandy loam & rocky: 1st and
4th rates.
Undergrowth, willow
Some small cottonwood trees

Thence in sec. 21.
Through dense willow and
chaparral undergrowth and
scattering cottonwood timber.
S. 26° W., 9.70 chs.,
S 11 3/4° E., 9.80 chs.,
West, 7.30 chs.,
S. 40° W., 11.00 chs.,
S. 13 1/4° W 10.40 chs. Bank. 15 ft. high.
Leave undergrowth
and timber.
S. 9 3/4° W., 2.30 chs. Bank 60 ft. high
S. 31 1/2° W., 23.20 chs. At 3 chs. wash, 25 lks
wide, course E.
At 9 chs. wash, 20 lks
wide, course E.
At 8 chs. bank 40 ft.
high
S. 48 1/4° W., 18.50 chs. At 0.50 chs. Fence bears
E. & W.
At 1.50 pumping plant
bears E. 25 lks.
At 4.30 Bovards & Brown's
cabin, bears W. 1 ch.
Thence along E. side

of cultivated field.

At 16.70 chs. fence &
leave field brass E.&W.
Enter dense willow
undergrowth &
cottonwood timber

S. 37½° W., 12.50 chs. to meander cor
fracl. secs. 7 & 8.

Land, level.
Soil, stony and rich sandy loam;
1st & 3rd rates.
Undergrowth willow.
Timber, cottonwood.

April. 6, 1911

November 9: 1910: For solar observation
see line on meanders of left bank
of Grand river sec 11.
To locate an island in the center of
sec. 3, I proceed as follows.
From the meander cor. of fracl.
secs. 3 & 10 on the right bank of
Grand river I set a flag on the
south point of island which bears
N. 76° 38' E. Grand river being at
extreme low water mark I am
able to measure to my flag by
direct measurement, therefore I
run N. 76° 38' E., 15.64 chs. to S. point
of island. In place of flag I
set an iron post, 3 ft. long, 1 in. in
dia., 16 ins. in the ground for
auxiliary meander cor. in sec. 3
marked on brass cap.

T22SR24E
S 3
AMC
1

Meanders, T. 22 S., R. 24 E

from which
a cottonwood, 16 ins. diam., bears
N. 64 3/4° E. 69 lks. dist. marked
T 22 S R 24 E S 3 A M C B T.

Meanders of island in sec. 3.
From auxiliary meander cor. 9
run with meanders in sec. 3.
N. 9 1/4° E. 7.70 chs.
N. 46 1/2° E., 7.50 chs.
N. 17 1/2° E., 13.00 chs.
N. 16° E., 8.20 chs. At 4 chs. Anderson's ferry across Grand river
S. 79 1/2° W., 24.50 chs. At 6 chs. road to ferry bears NW & SE.
S. 12° W 3.30 chs.
S 25° 30' E 28.00 chs. To auxiliary meander cor. on south point of island and place of beginning

Land, level.
Soil, rich sandy loam; 1st rate.
Timber, cottonwoods.
This island is about 6 ft. above water when at ordinary low water mark, but in high water seasons portions of it are subject to inundation. The soil is generally rich loam, capable of producing crops with the aid of irrigation. No improvements have been made on this island.

November 9, 1910.

General Description.

This township contains nearly every variety of land from plains to rough mountains and the soil ranges from rocky to a rich sandy loam. The soil of the bottom land along the Grand river in secs. 3, 10 and 21, along Coach creek in sec. 12 and in the NE 1/4 of sec. 1 is generally rich sandy loam with a rich sandy sub soil and is capable of producing crops with the aid of irrigation. The soil of the remaining portion of the township, except the mountainous land can nearly all be classed as second rate, is covered with a abundant growth of bunch grass and greasewood and shadscale and is capable of producing crops with the aid of irrigation. The soil of the mountainous portion is generally rocky of volcanic formation and is covered with a short grass good for grazing purposes.

The township is watered by the Grand river which flows through the central portion of the township in a southerly direction and thus forms a natural drain for all lands lying on the east and part of that to the west of it. Cisco wash which runs in a southerly course through secs. 6, 7, 8, 17, 20 + 21. forms a natural drain for the western one fourth. There are no other springs besides the water in Coach creek in the township.

Some cottonwood and willow timber are found along the Grand river while on the mountainous portions scrub cedar and pinon

forests of no commercial value which.
The island in sec. 3 contains about 40 acres and the greater portion lies above the high water mark of Grand river. It is covered with a dense forest of cottonwood and the soil is a rich river silt and capable of producing abundant crops with the aid of irrigation. Water may be secured by pumping it from Grand river.
Andersons desert entry in sec. 3. contains about 75 or 80 acres now under plow and watered from the Grand river with the aid of pumps.
Monte Morelands claim in sec. 12 contains about 70 acres under cultivation, he carrying water to his land by the aid of a gravity ditch from Coach Creek.
Bovards and Browns claim in sec. 21 contains about 30 acres now under cultivation and watered by the aid of pumps from Grand river.
The NE ¼ of sec. 1 consists of an open flat covered with a dense growth of sage brush and is capable of producing crops by the aid of irrigation. Water may be secured for this land by damming the mouth of Granite creek canyon and building a gravity ditch.
The remaining part of the township is of very little value and used chiefly for winter grazing of cattle and sheep.
During the progress of this survey

I found no indications of Mineral

Howard W. Miller
U. S. Transitman

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller Transitman, United States ~~Deputy Surveyor,~~ to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of subdivision resurvey and retracement of subdivision & Meanders of T. 22 S., R. 24 E. of the S.L.B.& M., Utah, showing the respective capacities in which they acted:

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe C Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eigle, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller, United States ~~Deputy Surveyor~~ Transitman, in surveying all those parts or portions of the subdivision, resurvey & retracement of subdivision and Meanders of T. 22 S., R. 24 E. of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah

Fred Wright, *Chainman.*
Karl Rothermund, *Chainman.*
Roscoe C Hallett, *Moundman.*
, *Moundman.*
Edward Jones, *Axman.*
, *Axman.*
Ben Eigle, *Flagman.*

Subscribed and sworn to before me this 12 day of November, 1910

Howard W Miller
U. S. Transitman

SEAL

6—151

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, ..., United States Deputy Surveyor, solemnly swear that, in pursuance of a contract received from ..... United States Surveyor General for ....., bearing date of ..... day of ....., 190 , I have well, faithfully, and truly, in my proper person, and in strict conformity with the instructions furnished by the United States Surve General for ....., the Manual of Surveying Instructions, and the laws of United States, surveyed all those parts or portions of .....

.....

.....

.....

..... of the .....

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

.....

United States Deputy Surve

Subscribed by said ....., and sworn to before me this ..... day of ....., 190

.....

.....

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

....., 19

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

.....

.....

.....

.....

.....

.....

executed by .....

under his contract No. ....., dated ....., 190 , having critically examined, and the necessary corrections and explanations made, the said field notes, and surveys they describe, are hereby approved.

.....

United States Surveyor Gen

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

.....

United States Surveyor Gen

6—151

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of subdivision, resurvey of subdivision and meanders of T. 22 S., R. 24 E of the S. L. B. & M., Utah, showing the respective capacities in which they acted:

Earl Harvey, *Chainman.*
Jack Thomas, *Chainman.*
Roscoe Hallett, *Moundman.*
, *Moundman.*
, *Axman.*
, *Axman.*
, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller Transitman, United States ~~Deputy Surveyor,~~ in surveying all those parts or portions of the subdivision, resurvey of subdivision and meanders of T. 22 S., R. 24 E of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

Earl Harvey, *Chainman.*
Jack Thomas, *Chainman.*
, *Moundman.*
Roscoe Hallett, *Moundman.*
, *Axman.*
, *Axman.*
, *Flagman.*

Subscribed and sworn to before me this 10 day of April, 1911

SEAL

Howard W. Miller
U. S. Transitman

6—151

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oath of transitman see book "Z 1 "T. 24 S., R. 26 E.

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

_____
United States Deputy Sur

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

SEAL

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25,

The foregoing field notes of the survey of the subdivisional and meander li
of Township No. 22 South, Range No.24 East of the Salt Lake Base
Meridian, Utah,

executed by Howard W. Miller
under his ~~contract No.~~ special instructions, dated August 6, 1910, ~~19~~, havin
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

Thomas Hull
United States Surveyor G

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

_____
United States Surveyor G

6—151

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Page

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Page

4—679.

Book "U"

BOOK A-379

FILED FEB 26 1912

M.S.B.

FIELD NOTES

OF THE SURVEY OF THE

South boundary,

West boundary,

and

Retracement of the North boundary,

of

T. 22 S., R. 23 E.

Of the Salt Lake Base & Meridian,

Utah

AS SURVEYED BY

Howard W. Miller, United States ~~Deputy Surveyor~~ Transitman,

Under his ~~Contract~~ assignment Group No. 4, dated August 6, 1910

Survey commenced April 10, 1911

Survey completed April 13, 1911

6—151

N. 89 50 W., and the distance is

BOOK A-379

NAMES AND DUTIES OF ASSISTANTS.

Earl Harvey, chainman

Roscoe Hallett, moundman

Jack Thomas, axman

Jack Thomas, flagman

T.24 S.R.26 E.

See Z[1] for period of service and certificate, of Carl Ray as Chainman.

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BOOK A-379

INDEX DIAGRAM.

Township 23 South, *Range* 23 East

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24	19	20	21	22	23	24
25	30	29	28	27	26	25
27	31	32	33	34	35	36
	19	17	16	15	13	12

Meanders Page.....

6—151

11:04 30 W., and the distance is

PRELIMINARY OATHS OF ASSISTANTS.

~~We~~ I, Earl Harvey ~~and~~

do solemnly swear that ~~we~~ I will well and faithfully execute the duties of chainman; that ~~we~~ I will leve chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; ~~we~~ I will report the true distances to all notable objects, and the true lengths of all lines that ~~we~~ I ass measuring, to the best of ~~our~~ my skill and ability, and in accordance with instructions given ~~us~~ me, in the surv the S., W. & retracement of the North bdy of T. 22 S., R. 23 E. of the S.L.B.& M., Utah.

, Chain

Earl Harvey, Chain

Subscribed and sworn to before me this 10 day of April, ~~190~~ 1911

Howard W Miller
U.S. Transitman

SEAL

~~We~~ I, Roscoe Hallett ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establis of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the sur the S., W. & retracement of the North boundry of T. 22 S., R. 23 E. of the S.L.B.& M., Utah.

Roscoe Hallett, Moun

, Moun

Subscribed and sworn to before me this 10 day of April, ~~190~~ 1911

Howard W Miller
U.S. Transitman

SEAL

~~We~~ I, Jack Thomas ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of c and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the sur the S., W. & retracement of the North boundry of T. 22 S., R. 23 E. of the S.L.B.& M. Utah.

Jack Thomas, A

, A

Subscribed and sworn to before me this 10 day of April, ~~190~~ 1911

Howard W Miller
U.S. Transitman

SEAL

I, Jack Thomas, do solemnly swear that I will well an perform the duties of flagman according to instructions given me, to the best of my skill and ability survey of the S., W. & retracement of the North boundry of T. 22 S., R. 23 E. of the S.L.B.& M., Utah.

Jack Thomas Fl

Subscribed and sworn to before me this 10 day of April, ~~190~~ 1911

Howard W Miller
U.S. Transitman

SEAL

6—151

Retracement of the north bdy. of T. 22 S. R. 23

Chains.

Survey commenced April 10, 1911 and executed with a W. and L. E. Gurley solar compass no. 1043. For description and test of instrument see book "T" of this survey.
I know that the instrument is in perfect adjustment by observations made on Polaris April 3, 1911 at the cor. of secs. 28 and 29, T. 22 S., R. 24 E.
For solar observations see line between secs 6 & 7, T. 22 S. R 24 E. , book "T" of this survey.
From the cor. of T. 21 S., Rs. 23 and 24 E., heretofore described I run
West, retracing line bet. secs. 1 & 36. Gradually ascend over rolling land sloping east, through short undergrowth of shadscale.

11.97 The closing cor. of T. 22 S., Rs 23 and 24 E. is 9 lks. north

40.10 & all 35 lks. S. of the 1/4 sec. cor. which is a sandstone 9 x 9 x 8 ins. above ground, firmly set, marked 1/4 on N. face but unwitnessed
I destroy all traces of the old cor., and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked 1/4 S 36 on N. half and S 1 on S. half, dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
The true bearing of this line is N. 89° 30' W., and the distance is

Retracement of the north bdy. of T. 22 S., R. 23 E.

Chains	
	40.10 chs. From the 1/4 sec. cor., I continue West.
10.15	Wash, 5 lks. wide, 5 ft. deep, course NE.
11.80	Wash, 5 lks. wide, 5 ft. deep, course S.
40.21	Fall 12 lks. S. of the cor. of secs. 1, 2, 35 and 36 which is a sandstone, 8 x 10 x 6 ins. above ground, firmly set, marked with 1 notch on E. and 5 notches on W. edge, but unwitnessed. Having resurveyed the east boundary of T. 22 S., R. 23 E. and finding that a closing tp. cor. was necessary upon the S. bdy of T. 21 S., R. 23 E., and as the south boundary of T. 22 S., R. 23 E. is to be surveyed West, establishing corners at distances 40 chs West of the cor. of T. 22 & 23 S., Rs. 23 & 24 E. and that the subdivision of T. 22 S., R. 23 E., is to be commenced at the cor. of secs. 1, 2, 35 and 36 on the S. bdy of the tp. it is plainly evident that closing corners will be necessary upon the north bdy. of the tp.; therefore in making the retracement of this boundary I will reestablish all sec. corners originally referring to 4 secs., to 2 secs. referring to T. 21 S., R. 23 E. which has been previously subdivided. I destroy all traces of the old cor. of secs. 1, 2, 35 and 36, and reestablish it at the same point as follows:

Retracement of the north bdy. of T. 22 S., R. 23 E.

Chains	
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 35 and 36, T. 21 S., R. 24 E. marked on brass cap T. 21 S R 23 E on N. half, S 35 in NW., and S 36 in NE. quadrant, 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 N. of cor.
	The true bearing of this line is N. 89° 50' W., and the distance is 40.21 chs.
	Land, rolling with an easterly drain.
	Soil, light clay loam with a hard clay sub soil; 2nd rate
	No timber.
	Undergrowth short shadscale.
	April 10: At this sec. cor. I set off 7° 46' N. on the ded. arc; and at 12h. 02m p. m. l. m. t., observe the sun on the meridian; the resulting lat. is 38° 56'.
	West, retracing bet. secs. 2 & 35. Gradually ascend over gently rolling land sloping SE. through short shadscale undergrowth
35.00	Low ridge and top of ascent, 75 ft. above sec. cor., brass N. & S. Gradually descend.
40.01	Fall 4 lks. S. of the 1/4 sec. cor., which is a sandstone 9 x 8 x 5 ins. above ground, firmly set, marked 1/4 on N. face, but unwitnessed
	I destroy all traces of the old 1/4

Chains	
	sec. cor. and reestablish it at the same point as follows; Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 35 on N. half and S 2 on S. half; dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist.; raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor. The true bearing of this line is N. 89° 57' W. and the distance is 40.01 chs. From the 1/4 sec. cor. I continue West.
27.00	Wash, 20 lks. wide, 5 ft. deep, course S. 20° W.
39.95	Fall 12 lks. S. of the cor. of secs. 2, 3, 34 & 35 which is a limestone, 6 x 16 x 5 ins. above ground, firmly set, with marks nearly obliterated and unwitnessed. I destroy all traces of the old cor. and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 34 and 35, T. 21 S., R. 23 E., marked on brass cap T 21 S R 23 E on N. half, S 34 in NW. and S 35 in NE. quadrant, dig pits, 24 x 24 x 12 ins. in each secs., 6 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high N. of cor. The true bearing of this line is N. 89° 50' W., and the distance is 39.95 chs.

Retracement of the North bdy. of T. 22 S., R. 23 E.

chains	
	Land rolling with general south drain.
	Soil, light clay loam with a hard dry clay sub soil, 3rd rate
	No timber.
	Undergrowth, short shadscale.
	West, retracing bet. secs. 3 & 34.
0.15	Wash, 5 lks. wide, 5 ft. deep, course SW. ascend 15 ft. to
2.75	Ridge, bears N & S. descend.
5.85	Wash, 20 lks. wide, 5 ft. deep, course S.
	Ascend 30 ft. to
14.00	Low ridge, bears N. & S.
	Gradually descend over land sloping SW.
40.04	Fall 5 lks. N. of the 1/4 sec. cor. which is a redwood post, 4 ins. sq., 18 ins. above ground firmly set, and marked and witnessed as described by the Surveyor General.
	I destroy all traces of the old cor and reestablish it at the same point as follows:
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 34 on N. half and S 3 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
	The true bearing of this line is S. 89° 56' W., and the distance is 40.04 chs.
	From the 1/4 sec. cor. I continue West.

Retracement of the north bdy. of T. 22 S., R.

Chains	
40.02	Fall 10 lks. N. of the cor. of secs. 3, 4, 33 and 34 which is a redwood post, 4 ins. sq. 1 ft. above ground, firmly set and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor. and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 33 & 34, T. 21 S., R. 23 E., marked on brass cap T 21 S R 23 E on N. half, S 33 in NW. and S 34 in NE. quadrant, 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 N. of cor. The true bearing of this line is S. 89° 51' W. and the distance is 40.02 chs. Land rolling with a general south drain Soil light clay loam with a hard dry clay sub soil, 2nd rate No timber Undergrowth shadscale
	West, retracing bet. secs. 4 & 33. Over rolling land draining south, through undergrowth of short shadscale Gradually descend.
39.96	Fall 3 lks. N. of the 1/4 sec. cor. which is a redwood stake, 4 x 6

Chains	
	ins. square, 1 ft. above ground firmly set, and marked and witnessed as described by the Surveyor General.
	I destroy all traces of the old cor. and reestablish it at the same point as follows:
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor. marked on brass cap 1/4 S 33 on N. half and S 4 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
	The true bearing of this line is S. 89° 57' W., and the distance is 39.96 chs.
	From the 1/4 sec. cor. I continue West:
7.25	Wash, 3 lks. wide, 3 ft. deep, course S.
15.25	Wash, 10 lks. wide, 4 ft. deep, course S.
17.25	Wash, 6 lks. wide, 3 ft. deep, course S.
40.01	Fall 2 lks. S. of the cor. of secs. 4, 5, 32 & 33 which is a redwood post, 4 x 6 ins. square, 1 ft. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
	I destroy all traces of the old cor. and reestablish it at the same point as follows:
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 32 & 33, T. 21 S., R. 23 E., marked

Chains	
	on brass cap T 21 S R 23 E on N. half, S 32 in NW. and S 33 in NE. quadrant, 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 N. of cor. The true bearing of this line is N. 89° 58' W., and the distance is 40.01 chs. Land, rolling with southerly drain. Soil, light clay loam, with hard clay sub-soil; 3rd rate. Undergrowth, short shadscale. No timber. April, 10, 1911.
	April: 13: For solar observation see line bet. secs. 31 & 36. on the W. bdy. of the tp. From the cor. of secs. 32 and 33 on the N. bdy of the tp. Run West, retracing bet. secs. 5 & 32 Gradually descend over gently rolling land through short shad-scale undergrowth.
14.40	Enter dense greasewood undergrowth, bears N. & S.
23.00	Nash wash, 35 lks. wide, 15 ft. deep, course S. 20° E.
28.25	Leave greasewood, bears N. & S. Gradually ascend.
34.20	Old wagon road, from Cisco, Utah to oil wells, bears NE. and SW.
40.00	Hall 21 lks. N. of the 1/4 sec. cor., which is a sandstone, 16 x 8 x 7 ins. above ground, firmly set, and marked and witnessed as

Chains	
	described by the Surveyor General. I destroy all traces of the old cor, and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 32 on N. half and S., 5 on S. half; raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable. The true bearing of this line is S. 89° 42' W., and the distance is 40.00 chs. From the 1/4 sec. cor., I continue West.
2.20	Enter gravelly branch, bears N. & S. Thence over level land.
10.15	Wall 16 lks. S. of the cor. of secs. 5, 6, 31 and 32 which is a sandstone 10 x 20 x 9 ins. above ground firmly set, and marked and witnessed as described by the Surveyor General. I destroy all traces of the old cor., and reestablish it at the same point as follows: Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 31 & 32, T. 21 S., R. 23 E., marked on brass cap, T. 21 S R 23 E. on N. half, S 31 in NW., and S 32 in NE. quadrant, dig pits 24 x 24 x 12 ins., in each secs., 6 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high N. of cor. The true bearing of this line is

Chains

N. 89° 51' W., and the distance is 40.15 chs.
Land, level and rolling
E. 42.20 chs. rolling land with general S. drain and gradual east and west slopes.
W 37.95 chs. level bench land
Soil, gravelly surface with a rich sandy loam sub soil; 1st rate.
Undergrowth, short shadscale and greasewood
No timber

West, retracing bet. secs. 6 & 31.
Over level bench land through short undergrowth of shadscale.
23.15 Leave bench, bears N. & S.
Descend gradually.
38.15 Wash, 5 lks. wide, 5 ft. deep, course S.
39.19 Hall 14 lks. N. of the 1/4 sec. cor., which is a redwood post, 4 ins. sq., 1 1/2 ft. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
I destroy all traces of the old cor., and reestablish it at the same point as follows:
Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 31 on N. half and S 6 on S. half; dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.,
The true bearing of this line is S. 89° 48' W., and the distance is

Retracement of the N. bdy. of T. 22 S., R. 23 E.

Chains	
	39.49 chs.
	From the 1/4 sec. cor., I continue West.
3.15	Wash, 3 lks. wide, 3 ft. deep, drains S.
16.00	Wash, 10 lks. wide, 3 ft. deep, drains S.
37.92	Fall 2 lks. S. of the cor. of Ts. 21 and 22 S., Rs. 22 and 23 E., described on page 21 of this survey.
	The true bearing of this line is therefore N. 89° 58' W., and the distance is 37.92 chs.
	Land, level and rolling.
	E. 23.15 chs. level bench land with a very gradual south slope, and covered with a short shadscale undergrowth.
	Soil, gravelly and sandy surface with a rich sand sub-soil, of about 3 ft. depth, 1st. rate.
	West 54.26 chs., rolling land with a general S. drain.
	Soil, light adobe clay with a very hard, dry clay sub-soil; 2nd. rate.
	Undergrowth, short shadscale with some greasewoods along bank of washes.
	No timber.

April 13, 1911

Chains	
	April 11: For solar observation see line bet. secs. 25 and 30, W. bdy. T. 22 S., R. 24 E.
	From the cor. of Ts. 22 and 23 S., Rs. 23 and 24 E., heretofore described I run
	West, bet. secs. 1 and 36.
	Over mountainous land, through scattering forest of scrub cedar and pinon.
	Descend over rocky land facing NW.
4.00	Hollow, drains NE.
	Ascend abruptly over boulders.
15.00	Ridge, 200 ft. above hollow, bears NE. and SW.
	Thence over land facing NW.
19.50	Head of hollow, drains N.
	Ascend 75 ft. to
33.00	Ridge, bears N. and S.
36.75	Perpendicular sandstone ledge, 40 ft. high bears N. and S.
	Descend abruptly over boulders.
40.00	125 ft. below top.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft high for 1/4 sec. cor., marked on brass cap 1/4 S 36 on N. half and S 1 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits Impracticable.
	Note: On account of natural obstacles I am unable to set post in the ground.
55.00	Base of ridge and wash in hollow, 50 lks. wide, 50 ft. below 1/4 sec. cor., course NW.
	Thence over broken land facing N.

South boundary of T. 22 S., R. 23 E.

Chains	
80.00	Point for the cor. of secs. 1, 2, 35 and 36 falls in wash, 20 lks. wide, course NE. No cor. set.
80.40	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for witness cor. to secs. 1, 2, 35 and 36., marked on brass cap T 22 S R 23 E S 35 S 36 on N. half, T 23 S S 1 S 2 on S. half, with W.C. to the east., raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Land, mountainous with a general North drain.
	Soil, rocky: 4th rate
	Timber, cedar and pinon.
	No undergrowth.
	Land mountainous or heavily timbered 80.40 chs.
	April 11: At this cor. I set off 8°08' N. on the decl. arc; and at 12h 01m p.m. l.m.t., observe the sun on the meridian: the resulting lat is 38°51'
	West, bet. secs. 2 & 35, Counting distances from true cor. point. Gradually ascend over mountainous land, through forest of scrub cedar and pinon.
0.40	The Witness Cor. to secs. 1, 2, 35 & 36
11.00	Ridge, 50 ft. above wash, bears NE. and SW.
	Gradually descend.
28.70	Hollow, 75 ft. deep, drains N.
	Ascend over rocky land.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for

South boundary of T. 22 S., R. 23 E.

Chains	
	1/4 sec. cor., marked on brass cap 1/4 S 35 on N. half and S 2 on S. half, raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
	No suitable trees within limits
48.00	Ridge, 125 ft. above hollow, bears N. & S.
	Descend 75 ft. to
57.00	Hollow, drains N.
	Ascend
72.00	Ridge, 60 ft. above hollow, bears N. 30° E. and S. 30° W.
	Gradually descend
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a mound of earth and stone for cor. of secs. 2, 3, 34 & 35, marked on brass cap.
	T 22 S R 23 E on N. half, T 23 S on S. half, S 34 in NW., S 35 in NE., S 2 in SE. and S 3 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
	Land mount amous, with natural drain to the north.
	Soil, rocky of sandstone formation with solid bed rock within 2 ft. of surface; 4th rate
	Timber, scrub cedar and pinon.
	Undergrowth, some short shadscale.

South boundary of T. 22 S., R. 23 E.

Chains	
	Land mount amous, heavily timbered or covered with dense undergrowth 80.00 chs.
	West, bet. secs. 3 + 34. Over mount amous land through forest of scrub cedar and juniper and short undergrowth of shadscale. Gradually descend.
21.50	Hollow, 75 ft. deep, course N. 70° E. Thence over broken land facing N.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 34 on N. half and S 3 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable
	April 11, 1911.
	April 12: At 8h 31m a.m. l.m.t., I set off 38° 51' on the lat. arc, 8° 28' N. on the decl. arc; and determine a meridian with the solar at this 1/4 sec. cor. Thence I run West.
47.00	Ridge, bears N. + S. Descend over land facing NW
76.80	Wash in canyon, 25 lks. wide, 200 ft. below ridge, course NE. Ascend abruptly.
80.00	80 ft. above canyon. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 3, 4, 33 + 34 marked on brass cap.

South boundary of T. 22 S., R. 23 E.

Chains.

T 22 S R 23 E on N. half.
T 23 S. on S. half,
S 33 in NW.,
S 34 in NE.,
S 3 in SE., and
S 4 in SW. quadrant,
raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
No suitable trees within limits.
Land mountainous, draining N.
Soil, rocky of sandstone formation 4th rate. Bed rock close to surface.
Timber, scrub cedar and pinon.
Undergrowth, shadscale.
Land mountainous, heavily timbered or covered with dense undergrowth
80.00 Chs.

West, bet. secs. 4 & 33.
Over mountainous land through forest of scrub cedar and pinon and undergrowth of shadscale.
Ascend rocky SE. slope of ridge.
24.00 Ridge, 200 ft. above cor., bears N. & S.
Gradually descend.
32.50 Hollow, 50 ft. deep, drains N.
Ascend 50 ft. to.
36.00 Spur, projects N.
Thence over rocky land.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap. 1/4 S 33 on N. half and S 4 on S half; dig pits 18 x 18 x 12 ins. E. & W. of post. 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high N. of cor.

South boundary of T. 22 S., R. 23 E.

Chains	
46.00	Descend abruptly over ledges into canyon.
58.55	Wash in canyon, 30 lks. wide, 275 ft. below 1/4 sec. cor., course N. Ascend abruptly.
80.00	On top of west side of canyon, 200 ft. above base. 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, marked on brass cap T 22 S R 23 E. on N. half, T 23 S on S half, S 32 in NW., S 33 in NE., S 4 in SE. and S 5 in SW. quadrant., dig pits, 18 x 15 x 12 ins. in each sec., 5½ ft. dist.; raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land, mount anous with a general north drain. Soil, rocky of sandstone formation; 4th rate. Sandstone bed rock close to surface. Timber, scrub Cedar and pinon. Undergrowth, short shadscale. Land mount anous heavily timbered or covered with dense undergrowth 8000 chs. April 12: At this sec. cor. I set off 8°30' N. on the decl. arc; and at 12h 01m p. m. l. m. t., observe the sun on the meridian; the resulting lat. is 38°51
	West, bet. secs. 5 & 32. Gradually ascend over mount-

Chains	
	among land through forest of scrub cedar and pinon and undergrowth of shadscale.
9.00	Ridge, bears NE. and SW.
	Descend.
14.30	Hollow drains N.
	Thence over land facing N.
17.20	Hollow, drains N.
37.15	Begin descent into canyon.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 32 on N. half and S 5 on S half; raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable.
	No suitable trees within limits
42.10	Wash in canyon, 75 lks. wide, 175 ft. deep, course N.
	Ascend abruptly.
46.80	Top of canyon and steep ascent 150 ft. above base, bears N. + S.
	Thence over land facing N.
80.00	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 marked on brass cap.
	T 22 S R 23 E on N. half, T 23 S on S. half, S 31 in NW., S 32 in NE., S 5 in SE. and S 6 in SW. quadrant., dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.

South boundary of T. 22 S R. 23 E.

Chain	
	Land, mountainous, with a general north drain, cut by numerous canyons with steep rocky east and west slopes. Soil rocky of sandstone formation 4th rate. Solid sandstone bed rock, close to surface. Timber, scattering scrub cedar and pinon. Undergrowth, shadscale with some scattering chaparral. Land mountainous, heavily timbered or covered with dense undergrowth 80.00 chs.
	West, bet. secs. 6 & 31. Over mountainous land through forest of scrub cedar and pinon and undergrowth of shadscale and chaparral. Gradually ascend.
72.00	Top of high flat ridge, bears N. and S.
	Thence across ridge.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone 4 ft. base, 2 ft. high for 1/4 Sec. Cor., marked on brass cap 1/4 S 31 on N. half and S 6 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high, N. of cor.
	Pits impracticable. No suitable trees within limits. Note: on account of natural obstacles, I am unable to set

Chains	
	post in the ground.
51.10	Rim of ridge bears N. 10° E and SW.
	Thence descend over steep land facing NW. over series of ledges 10 to 20 ft. high.
66.10	Base of ledges 175 ft. below top. bears NE. and SW.
78.25	Set temporary cor. of T.S. 22 & 23 S., Rs. 22 & 23 E.
	Land mountainous with a general north drain and east and west slopes of ridges. Soil, rocky; 4th rate, Sandstone formation with sandstone bedrock close to surface. Undergrowth, shadscale and chaparral. Timber scrub cedar and pinon. Land mountainous heavily timbered or covered with dense undergrowth 78.25 chs.
	Note. The true position of this cor is at 66.10 chs., for description see page 32, line bet. secs. 31 & 36.
	April 12, 1911

West boundry T. 22 S., R. 23 E.

April 13: At 7h 31m a.m. l.m.t., I set off 38° 51' on the lat. arc., 8° 49' N. on the decl. arc., and determine a meridian with the solar at the temporary cor. of Ts. 22 & 23 S., Rs. 22 & 23 E.

Thence I run:

North, on a random line along the W. bdy. of the tp. setting temp. 1/4 sec. and sec. cors. at intervals of 40.00 and 80.00 chs. and at 486.77 chs., intersect N. bdy. of the

West boundary of T. 22 S., R. 23 E.

Chains

Tp. 12.15 chs. West of the cor. of Ts. 21 & 22 S., Rs. 22 & 23 E., which is a sandstone 8 x 12 x 7 ins. above ground, firmly set, and marked and witnessed as described by the Surveyor General.
I destroy all traces of the old cor. and reestablish it at the same point as follows.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground, for cor. of Ts. 21 & 22 S., Rs. 22 & 23 E., marked on brass cap.

T 21 S. on N. half,
T 22 S on S half,
R 22 E S 36 in NW.,
R 23 E S 31 in NE.,
S 6 R 23 E in SE. and
S 1 R 22 E in SW. quadrant,

dig pits, 24 x 24 x 12 ins. on line, E. W. & N. 4 ft., and S. of post 8 ft. dist., raise a mound of earth 5 ft base, 2½ ft. high S. of cor.
As my falling is out of limits I abandon my random line and beginning at the cor. of Ts. 21 & 22 S., Rs 22 & 23 E., survey the range line as follows.
From the Tp. cor. already described South, bet. secs. 1 & 6.
Over gently rolling land, through short undergrowth of shadscale.

34.80 Wash, 30 lks. wide, 10 ft. deep, course SE.
Enter dense undergrowth of greasewood.

37.05 Wash, 20 lks wide, 10 ft. deep, Course SE.

West boundary of T. 22 S., R. 23 E.

Chains	
46.77	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 1 on W., and S 6 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
52.00	Wash, 5 lks. wide, 5 ft. deep, course SE.
54.30	Rogers wash, 55 lks. wide, 15 ft. deep, course S. 80° E.
	Thence over rolling bench land.
55.20	Leave greasewood, bears NW. & SE.
86.77	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 1, 6, 7 & 12 marked on brass cap T 22 S on N. half, R 22 E S 1 in NW., R 23 E S 6 in NE., S 7 in SE. and S 12 in SW. quadrant, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable Land, rolling Soil, clay and gravelly with a hard baked clay sub soil; 3rd rate Undergrowth, greasewood and short shadscale Dense greasewood undergrowth on 20.40 chs No timber

South, bet. secs. 7 & 12.
Over rolling land draining east, through short shadscale undergrowth.

West boundary of T. 22 S., R. 23 E.

Chains	
29.50	Wash, 50 lks. wide, 5 ft. deep, course NE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 12 on W. half and S 7 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist.; raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
76.25	Wash, 15 lks. wide, 3 ft. deep, course NE.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 7, 12, 13 & 18, marked on brass cap T 22 S. on N. half R 22 E S 12 in NW., R 23 E S 7 in NE., S 18 in SE. and S 13 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land, rolling, draining east Soil, adobe clay with a hard dry clay sub-soil, 3rd rate. Undergrowth, short shadscale No timber
	South, bet. secs. 13 & 18. Gradually ascend over rolling land draining NE., through short under-growth of greasewood.
5.25	Wash, 5 lks. wide, 3 ft. deep, course NE.
20.85	Wash, 6 lks. wide, 2 ft. deep, course NE.

West boundary of T. 22 S., R. 23 E.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 13 on W. half and S 18 on E. half; dig pits 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist.; raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
Hr. 80	Ridge, bears N 85° E & W.
	Thence descend over land facing S.
80.00	100 ft. below ridge.
	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 13, 18, 19 & 24, marked on brass cap.
	T 22 S. on N. half,
	R 22 E S 13 in NW.,
	R 23 E S 18 in NE.,
	S 19 in SE. and
	S 24 in SW. quadrant,
	dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	N. 42.80 chs. rolling land, draining towards the NE.
	S 37.20 chs. hilly land draining S.
	Soil, clay and gravelly with a hard clay sub soil; 3rd rate.
	Undergrowth, short chaparral.
	No timber
	April 13: At this sec. cor. I set off 8° 52' N. on the decl. arc; and at 12h 01m p.m.l.m.t., observe the sun on the mer.; the resulting lat. is 38° 54'.

South, bet. secs. 19 & 24.
Gradually descend over hilly land.

West boundary of T. 22 S., R. 23 E.

Chains.	
	facing S.
5.00	Enter dense undergrowth of greasewood, brs E. and W.
9.50	Monument wash, 40 lks. wide, 15 ft. deep, course East. Enter mount amous land, begin to ascend.
10.00	Leave greasewood, brs E. & W.
16.40	Wash, 20 lks. wide, 4 ft. deep, course NE.
40.00	150 ft. above wash, Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 24, on W. half and S 19 on E. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high, W. of cor. Pits impracticable
43.00	Ridge, 40 ft. above 1/4 sec. cor., brs E. and W. Descend abruptly 150 ft. to
48.50	Wash in hollow, course E. Ascend 75 ft. to
56.00	Ridge, brs E. and W. Descend 60 ft. to
61.00	Wash in hollow, drains E. Ascend 70 ft. to
68.00	Spur, projects E. Descend 75 ft. to
74.00	Wash, 40 lks. wide, 4 ft. deep, course NE. Thence over land facing W.
80.00	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, marked on brass cap T 22 S on N. half, R 22 E S 24 on NW., R 23 E S 19 in NE.,

Chains.

S 30 in SE., and
S 25 in SW. quadrant,
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 mount amous draining E.
Soil, rocky and clay with, rock and clay sub soil.
Underg rowth, greasewood on 5 chs.
No timber
Mount amous land on 80.00 chs.

South, bet. secs. 25 and 30.
Ascend over hilly land sloping NW, through short shadscale underg rowth.
5.00 Low ridge, bears E. and W.
Gradually descend.
12.00 Wash, 20 lks. wide, 5 ft. deep, course NE.
Gradually ascend.
28.00 Enter scrub cedar and pinon, bears E. & W.
Begin ascent over rocky land facing N.
40.00 Ridge, bears E. and W.
Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in a mound of earth and stone 4 ft. base 16 ins. high, for 1/4 sec. cor., marked on brass cap 1/4 S 25 on W. half and S 30 on E. half; raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
On account of natural obstacles I am unable to set post in the ground.

West boundary of T. 22 S. R. 23 E.

Chains	
	Gradually descend over land facing SW.
74.40	Wash, 5 lks. wide, 2 ft. deep, course NW.
	Ascend.
80.00	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground and mound of stone for cor of secs. 25, 30, 31 & 36 marked on brass cap T 22 S on N. half R 22 E S 25 in NW., R 23 E S 30 in NE., S 31 in SE. and S 36 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Note: On account of natural obstacles I am unable to set post in the ground. Land, mountainous, with general north and NE. drain. Soil, rocky; 4th rate. with hard sandstone bed rock close to surface. Timber, scrub cedar and juniper, on 52 chs. Undergrowth shadscale. Mountainous and timbered land 80.00 chs.
	South, bet. secs. 31 & 36. Over mountainous land through forest of cedar and juniper. Ascend 75 ft. to
17.50	Ridge, bears NE. and W. Descend abruptly.
38.00	A spring of good water, bears E. 5 chs.

West boundary of T. 22 S., R. 23 E.

Chains

40.00 Set an iron post, 3 ft. long, 1 in in dia., 26 ins. in a mound of earth and stone, 4 ft. base, 2 ft high for 1/4 sec. cor., marked on brass cap 1/4 S 36 on W. half and S 31 on E. half; raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
Pits Impracticable
Note: On account of natural obstacles I am unable to set post in the ground.

40.50 Wash in canyon, 30 lks. wide, 175 ft. below ridge, course NE.
Ascend 80 ft. to

54.50 Ridge, bears NE. and SW
Descend

74.30 Hollow, 50 ft. deep, drains NE.
Ascend.

80.00 At base of sandstone ledges.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a mound of earth and stone for cor. of Ts. 22 & 23 S., Rs. 22 & 23 E., marked on brass cap.

T 22 S on N. half,
T 23 S on S half
R 22 E S 36 in NW.,
R 23 E S 31 in NE.,
S 6 R 23 E in SE. and
S 1 R 22 E in SW. quadrant.,

dig pits., 24 x 24 x 12 ins., E, W. & N. 4 ft., and S. of post 8 ft. dist., raise a mound of earth 5 ft. base, 2 1/2 ft. high S. of cor.
Note. On account of natural obstacles, I am unable to set post in the ground.
Land mount arroyo with a

West boundary of T. 22 S., R. 23 E.

Chains	
	general NE. drain. Soil, rocky of sandstone formation; 4th rate. Timber, scrub cedar and juniper. Underg rowth, some short shadscale. Land mountainous or heavily timbered 80.00 chs April, 13, 1911

Boundaries of T. 22 S., R. 23 E.

Latitudes, Departures and Closing errors

Lines Designated	Course	Distance	Latitudes N	Latitudes S	Departures E	Departures W
		chs.	chs.	chs.	chs.	chs.
West bdy	South	486.77		486.77		
South bdy	East	466.10			466.10	
E Bdy	North	486.54	486.54			
North bdy.						
E 1/4 sec 1.	N89°30'W	28.13	.26			28.13
W 1/4 sec 1	N89°50'W	40.21	.12			40.21
E 1/4 sec 2	N89°57'W	40.01	.04			40.01
W 1/4 sec 2	N89°50'W	39.95	.12			39.95
E 1/4 sec 3	S89°56'W	40.04		.05		40.04
W 1/4 sec 3	S89°51'W	40.02		.10		40.02
E 1/4 sec 4	S89°57'W	39.96		.03		39.96
W 1/4 sec 4	N89°58'W	40.01	.02			40.01
E 1/4 sec 5	S89°42'W	40.00		.21		40.00
W 1/4 sec 5	N89°51'W	40.15	.10			40.15
E 1/4 sec 6	S89°48'W	39.49		.14		39.49
W 1/4 sec 6	N89°58'W	37.92	.02			37.92
Convergency						.59
			487.20	487.30	466.10	466.48
				487.20		466.10
Errors.				.10		.38

For General description see book "V" of this survey

Howard W. Miller
U.S. Transitman.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller, Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the W., S., and retracement of the North boundary of T. 2 N., R. 3 E. of the S.L.B.&M., Utah, showing the respective capacities in which they acted:

..., Chainman.
Earl Harvey, Chainman.
Roscoe Hallett, Moundman.
..., Moundman.
Jack Thomas, Axman.
..., Axman.
Jack Thomas, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller, Transitman, United States ~~Deputy Surveyor~~, in surveying all those parts or portions of the South boundary, West boundary, and Retracement of the north boundary of T. 2 N., R. 3 E. of the Salt Lake Base and meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

..., Chainman.
Earl Harvey, Chainman.
Roscoe Hallett, Moundman.
..., Moundman.
..., Axman.
Jack Thomas, Axman.
Jack Thomas, Flagman.

Subscribed and sworn to before me this 13 day of April, 1911.

SEAL

Howard W. Miller
U.S. Transitman

6-161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, _____, United States Deputy Surveyor, d
solemnly swear that, in pursuance of a contract received from _____, bearing date of th
United States Surveyor General for _____
_____ day of _____, 190 , I have well, faithfully, and truly, in my ow
proper person, and in strict conformity with the instructions furnished by the United States Surveyo
General for _____, the Manual of Surveying Instructions, and the laws of th
United States, surveyed all those parts or portions of _____

For final oath of transitman see book "Y" T. 25 S., R. 26 E.

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

_____
United States Deputy Surve

Subscribed by said _____, and sworn to before me
this _____ day of _____, 190

_____

SEAL

_____

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25, 1

The foregoing field notes of the survey of the South and West, and retracement o
the North, ~~and resurvey of the East~~ Boundaries of Township No. 22
South, Range No. 23 East of the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller
under his ~~contract No.~~ Special Instructions A, dated August 6, 1910 ~~190~~, having
critically examined, and the necessary corrections and explanations made, the said field notes, an
surveys they describe, are hereby approved.

Thomas Hull
United States Surveyor Ge

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

_____
United States Surveyor G

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Filed Feb.26, 1912.
WSH.

BOOK A-379

Book V.

MSB.

FIELD NOTES

OF THE SURVEY OF THE

S U B D I V I S I O N

O F

T.22 S., R.23 E.

Of the Salt Lake Base and *Meridian,*

Utah.

AS SURVEYED BY

Howard W.Miller, *United States* ~~*Deputy Surveyor,*~~ Transitman.
Assignment Group

Under his ~~*Contract*~~ *No.* 4, *dated* August 6, 1910, ~~xxx~~

Survey commenced April 14 1911, ~~xxx~~

Survey completed April 30 1911, ~~xxx~~

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NAMES AND DUTIES OF ASSISTANTS.

Earl Harvey	Chainman.
Roscoe Hallett,	Moundman.
J ack Thomas,	Axman.
Jack Thomas,	Flagman.

See Z^1 T.24 S., R.26 E.for period of service and certificate for Carl Ray as Chainman.

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BOOK A-379

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

~~We,~~ I Earl Harvey ~~and~~

do solemnly swear that ~~we~~ I will well and faithfully execute the duties of chainmen; that ~~we~~ I will level chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; t we will report the true distances to all notable objects, and the true lengths of all lines that ~~we~~ I assis measuring, to the best of ~~our~~ my skill and ability, and in accordance with instructions given ~~us,~~ me, in the survey the subdivision of T. 22 S., R. 23 E. of the Salt L Base and Meridian, Utah.

_____, Chainm

Earl Harvey, Chainm

Subscribed and sworn to before me this 14 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

~~We,~~ I Roscoe Hallett ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establishm of corners, according to the instructions given ~~us,~~ me, to the best of ~~our~~ my skill and ability, in the survey the subdivision of T. 22 S., R. 23 E. of the S.L & M., Utah.

Roscoe Hallett, Moundm

_____, Moundm

Subscribed and sworn to before me this 14 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

~~We,~~ I Jack Thomas ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of cor and other duties, according to instructions given us, to the best of ~~our~~ my skill and ability, in the survey the subdivision of T. 22 S., R. 23 E. of the S. & M., Utah.

Jack Thomas, Axm

_____, Axm

Subscribed and sworn to before me this 14 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

I, Jack Thomas, do solemnly swear that I will well and t perform the duties of flagman according to instructions given me, to the best of my skill and ability, in survey of the subdivision of T. 22 S., R. 23 E of the S.L.B.& M., Utah.

Jack Thomas, Flagm

Subscribed and sworn to before me this 14 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

6—151

Subdivision of T. 22 S., R. 23 E.

Chains	
	Survey commenced April 14, 1911, and executed with a W. & S. E. Gurley solar compass No. 1043. For description and test of instrument see book "T" of this survey.
	April 13: The sky was overcast during the night, observations on Polaris impossible.
	April 14: At 8h 01m a.m. l.m.t., I set off 38°51' on the lat. arc, 9°10' N. on the decl. arc, and determine a mer., with the solar at the true cor. point of secs. 1, 2, 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 mount arous land through short undergrowth of shadscale.
	Ascend 60 ft. to
4.30	Spur, projects E.
	Descend.
8.00	Wash in hollow, 25 lks. wide, 50 ft. deep, drains NW.
	Thence across hollow.
15.00	Begin ascent over rocky west face of high ridge.
31.50	Top of ascent 150 ft. above hollow.
	Gradually descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 35 on W. half and S 36 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
51.50	Wash in hollow, 20 lks. wide, drains NE.

Subdivision of T. 22 S., R. 23 E.

Chains	
	Thence up steep SE. slope of ridge, over ledges and boulders
68.00	Top of canyon and ridge, 210 ft. above base, bears NE. and SW. Gradually descend
75.00	Enter forest of scrub cedar and pinon, bears E. and W.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of earth and stone 4 ft. base, 2 ft high for cor. of secs. 25, 26, 35 & 36, marked on brass cap T 22 S S 26 in NW., R 23 E S 25 in NE., S 36 in SE. and S 35 in SW. quadrant, raise a mound of stone, 2 ft. base 1½ ft. high W. of cor.
	Pits impracticable
	No suitable trees within limits.
	Land mountainous with a general NE. drain.
	Soil, rocky of volcanic formation with rocky sub-soil; 4th rate.
	Timber, scrub cedar and pinon on N. 5 chs.
	Undergrowth, shadscale.
	Mountainous, or timbered land 80.00 chs.
	Note: On account of natural obstacles, I am unable to set a post in the ground.
	East, on a random line, bet. secs. 25 and 36.
40.00	Set temporary ¼ sec. cor.
80.00	Intersect E. bdy. of the tp. at the cor. of secs. 25, 30, 31 and 36
	Thence I run

Subdivision of T. 22 S., R. 23 E.

Chains	
	West, on true line bet. secs. 25 & 36, over mount among land draining N., though scattering scrub cedar and juniper trees and short undergrowth of shadscale.
	Ascend 15 ft. to
1.50	Low spur, projects N.
	Descend 100 ft. to
8.00	Hollow, drains N. 30° E.
	Ascend 125 ft. to
16.00	Ridge, bears N. 20° E and S. 20° W.
	Descend 50 ft. to
23.90	Hollow, drains N.
	Ascend 75 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lks. in a mound of earth and stone, 4 ft. base, 2 ft. high, for 1/4 sec. cor., mkd. on brass cap 1/4 S 25 on N. half and S. 36 on S. half; raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
	No suitable trees within limits
	Note: On account of natural obstacles I am unable to set post in the ground.
45.00	Begin descent over ledges into canyon.
54.40	Wash in canyon, 75 lks. wide, 12.5 ft. deep, course N. 30° E.
	Ascend abruptly over ledges.
62.20	Ridge and top of canyon, 140 ft. above base, bears NE. and SW.
	Gradually descend over land sloping N.
80.00	The cor. of secs. 25, 26, 35 and 36.
	Land mount among with a general N. drain and slope.

Chains	
	Soil, rocky of sandstone formation, and with solid rock sub soil; 4th rate. Timber, scrub cedar and pinon. Undergrowth, short shadscale. Land mountainous or heavily timbered 80.00 chs.
	N. 0° 01' W., bet. secs. 25 and 26. Descend over mountainous land through forest of scrub cedar and pinon and undergrowth of short shadscale.
34.00	Leave cedar and pinon, descend abruptly into canyon, bears NE. and SW.
40.00	Point for the 1/4 sec. cor falls in wash in canyon, 25 lks. wide, 100 ft. deep, course NE. No cor. set.
	Begin ascent from canyon.
40.40	Set an iron post, 3 ft. long, 1 in in dia., 26 ins. in the ground for witness cor., to the 1/4 sec. cor., marked on brass cap. T. 22 S R 23 E on N. half, S 25 on E. half, S 26 on W. half with WC 1/4 to the south, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable.
46.00	Ridge, 75 ft. above canyon, bears NE. and SW. Gradually descend.
55.50	Hollow, 50 ft. deep, drains NE. Ascend 50 ft. to
60.00	Spur, projects NE. Gradually descend.
63.70	Hollow, drains E. Thence over land sloping E.
79.40	Wash in hollow, 5 lks. wide, 3 ft.

Subdivision of T. 22 S., R. 23 E.

Chains	
	deep, drains S. 80° E.
	Ascend gradually.
80.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for cor. of secs. 23, 24, 25 and 26, marked on brass cap T 22 S S 23 in NW., R 23 E S 24 in NE., S 25 in SE. and S 26 in SW. quadrant,
	dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	Land mountainous with a general NE. slope and drain.
	Soil rocky and light clay loam with a rocky sub soil; 4th rate.
	Timber, cedar and pinon on S. 34.00 chs.
	Undergrowth shadscale.
	Mountainous or timbered land 80.00 chs.
	April 14: At this sec. cor., I set off 9° 13' N. on the decl. arc; and at 12h 01m p.m. l. m. t., observe the sun on the meridian; the resulting lat. is 38° 53'.
	East, on a random line, bet. secs. 24 and 25
40.00	Set temporary 1/4 sec. cor.
79.98	Intersect E. bdy. of the tp. 2 lks. N. of the cor. of secs. 19, 24, 25 & 30 heretofore described.
	Thence I run
	N. 89° 59' W., on true line bet. secs. 24 and 25.
	Over hilly land sloping NE.

Subdivision of T. 22 S., R. 23 E.

Chains.

8.60 Hollow, drains NE.
Thence over land facing N.
13.00 Hollow, drains NE.
Ascend 100 ft. to
25.75 Top of ridge and bench, bears NE. and SW.
Thence over land facing N.
39.50 Ridge and leave bench, bears NW. and SE.
Descend abruptly.
39.99 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 24 on N. half and S. 25 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
44.00 Hollow, 60 ft. deep drains S.
Ascend abruptly 70 ft. to
48.00 On top of south point of bench bears NW. + NE.
Descend abruptly.
52.00 Thence over rolling land sloping nearly south at base of bench.
79.98 The cor. of secs. 23, 24, 25 + 26.
Land hilly and rolling with a general easterly drain. NE. slopes on E. 39.50 chs. and S. slopes on W. 46.48 chs.
Soil, light adobe clay and gravelly, with a hard clay sub soil. 4th rate.
No undergrowth.
No timber.

N. 0° 01' W., bet. secs. 23 + 24.

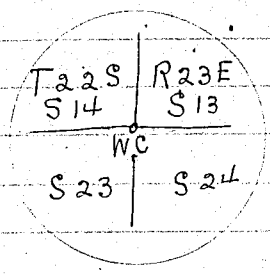
Subdivision of T. 22 S., R. 23 E.

Chains	
	Over hilly land.
	Ascend south face of bluff.
12.50	Top of ridge and bluff, 90 ft. above sec. cor., brass E. and W.
	Gradually descend over land facing N.
27.40	Hollow, 100 ft. below ridge, drains NE.
	Ascend 75 ft. to
32.70	Ridge, brass NE. and SW.
	Descend 50 ft. to
39.10	Hollow, drains NE.
	Ascend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 23 on W. half and S 24 on E. half., dig pits, 18 x 18 x 12 ins., N. + S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
41.50	Ridge, 50 ft. high, brass NE. + SW.
	Descend 60 ft. to
53.60	Hollow and wash, 20 lks. wide, drains NE.
	Ascend.
63.50	Ridge, brass NE. and SW.
	Descend.
69.30	Wash, 10 lks. wide, 5 ft. deep, drains NE.
75.10	Wash, 10 lks. wide, 3 ft. deep, drains NE.
76.00	The true point for cor. of secs. 13, 14, 23 + 24 will fall in center of Sagers Wash, where cor. cannot be perpetuated, therefore at this point Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for witness cor. to secs. 13, 14, 23

Subdivision of T. 22 S., R. 23 E.

Chains

and 24, marked on brass cap



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.

77.00 Left bank of Rogers wash at bend from north to east, course East.

Thence up channel of wash.

80.00 True point for cor. of secs. 13, 14, 23 and 24. in wash. No cor. set. Set stake for future reference.

Land mount ainous, draining NE. and east.

Soil, clay and rocky; 4th rate.

Sub soil, clay and gravel.

Undergrowth, some short shadscale.

No timber.

Mount ainous land 80.00 chs.

April 14, 1911.

Note: A terrific wind storm which continues all night, prevents observations on Polaris

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April 15: At 8h. a.m. l.m.t., I set off 38° 54' on the lat. arc; 9° 32' N. on the decl. arc., and determine a mer.; with the solar at the true cor. point of secs. 13, 14, 23 & 24.

Thence I run

S. 89° 59' E., on a random line bet. secs. 13 & 24.

Subdivision of T. 22 S., R. 23 E.

Chains	
40.00	Set temporary 1/4 sec. cor.
80.04	Intersect E. bdy. of the tp. 5 lks. N. of the cor. of secs. 13, and 24. heretofore described
	Thence I run
	N. 89° 57' W., on true line bet. secs. 13 and 24.
	Gradually ascend over nearly level land.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 13 on N. half and S 24 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
41.00	Enter channel of wash, 10 lks. wide, 10 ft. deep, course S.
43.00	Leave wash, turns north. Enter dense greasewood undergrowth.
68.60	Left bank of sagers wash, bears NW & S. 80° E. Leave undergrowth
	Thence up channel of wash.
80.04	The true cor. point of secs. 13, 14, 23 & 24.
	Land, gently rolling with natural drain to the south.
	Soil, alkali clay with a hard dry clay sub soil; 3rd rate.
	Undergrowth, dense greasewood on 15.60 chs.
	No timber
	N. 0° 01' W., bet. secs. 13 & 14.
	Over level land in channel of Sagers wash.
12.00	Leave wash, turns NW.

Chains	
	Gradually ascend.
29.80	Wash, 20 lks. wide, 10 ft. deep, course SW.
33.80	Wash, 20 lks. wide, 10 ft. deep, course SW.
36.00	Same wash, course S. 10° E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 14 on W. half and S 13 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
41.00	Same wash, S. 10° W.
60.00	Same wash, course SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 11, 12, 13 and 14, mkd. on brass cap T 22 S S 11 in NW., R 23 E S 12 in NE., S 13 in SE. and S 14 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land, rolling; draining South Soil, clay and gravelly with a hard dry clay sub soil; 3rd rate No timber. No undergrowth.
	S. 89° 57' E., on a random line bet. secs. 12 & 13.
40.00	Set temporary 1/4 sec. cor.
80.10	Intersect E. bdy. of the tp. 2 lks. N. of the cor. of secs. 12 & 13 heretofore

Chains	
	described Thence I run N. 89° 56' W., on true line bet. secs. 12 + 13 Gradually ascend over rolling land draining SE.
16.00	Low ridge, bears N. + S. Gradually descend.
39.60	Wash, 10 lks. wide, 5 ft. deep, drains S. 30° E.
40.05	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 12 on N. half and S 13 on S. half; dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
57.40	Wash, 10 lks. wide, 4 ft. deep, drains SW.
60.70	Wash, 10 lks wide, 5 ft. deep, drains SW.
69.10	Wash, 15 lks. wide, 5 ft. deep, drains S.
80.10	The cor. of secs. 11, 12, 13 and 14. Land rolling, draining south. Soil, a light alkali clay with a hard clay sub-soil: 3rd rate No timber No Undergrowth. April 15: At this sec. cor., I set off 9° 35' N. on the decl. arc; and at 12 h. m. l.m.t., observe the sun on the meridian, the resulting lat is 38° 55'
	N. 0° 01' W., bet. secs. 11 + 12. Gradually ascend over rolling land sloping south, through short shadscale undergrowth.

Subdivision of T. 22 S., R. 23 E.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 11 on W. half and S 12 on E. half; dig pits, 18 x 18 x 12 ins. N. and S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
41.50	Wash, 10 lks. wide, 4 ft. deep, drains SW.
49.50	Same wash, drains S. 10° E.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 1, 2, 11 and 12, mkd on brass cap T 22 S S 2 in NW., R 23 E S 1 in NE., S 12 in SE. and S 11 in SW. quadrant., dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land rolling, with a general south slope and drain. Soil, alkali clay with a hard dry clay sub soil, 3rd rate Undergrowth, short shadscale. No timber
	S. 89° 56' E., on a random line bet. secs. 1 and 12.
40.00	Set temporary 1/4 sec. cor.
80.14	Intersect E. bdy. of the tp. 2 lks. N. of the cor. of secs. 1 & 12 heretofore described
	Thence run N. 89° 55' W., on true line bet. secs 1 & 12.

Subdivision of T. 22 S., R. 23 E.

chains.	
	Over rolling land draining S., through short undergrowth of shadscale.
1.00	Old wagon road, bears N. and SE.
5.25	Wash, 5 lks. wide, 3 ft. deep, drains N. 20° E.
15.60	Low ridge, bears NW. and S. Gradually descend.
29.25	Wash, 5 lks. wide, 5 ft. deep, drains SW.
40.07	Set an iron post 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 1 on N. half and S 12 on S. half, dig pits, 18 × 18 × 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high N. of cor.
59.60	Wash, 10 lks. wide, 4 ft. deep, drains SW.
60.60	Wash, 5 lks. wide, 4 ft. deep, drains S.
80.14	The cor. of secs., 1, 2, 11 and 12. Land, rolling with a general south drain. Soil, alkali clay with a hard baked clay sub-soil; 3rd rate. Undergrowth, short shadscale. No timber

April 15: At my camp which is situated near the center of sec. 15, in approximate latitude 38° 54' N., longitude 109° 23' 33" W., I set off 38° 54' N., on the latitude arc; 9° 39' N., on the decl., arc; and at 4h. 30m. p.m. l.m.t., determine with the solar a meridian, and mark a point in the line thereof on a peg driven firmly in the ground, 5 chs N. of my station.

At 7h. 15m. p.m. l.m.t., by my watch

Chains

which carries correct local mean time, I observe Polaris, and mark the direction thus determined by a tack driven in a picket firmly set 5 chs. N. of the station.

Astron. time of obsn by watch April 15 — 7h. 15m.
Equiv. to time of April 14 — 31 15.0
Astron. time U.C. Polaris April 15 — 23h. 52.2m.
Reduced to April 14. — 3.9
U.C. Polaris April 14 — 23 56.1 — 23 56.1
Hour angle of Polaris at obsn — 7h. 19m.
Azimuth of Polaris at obsn = 1° 23.5' W.

April 15, 1911

April 16: at 7h. a.m. l.m.t., I lay off the azimuth of Polaris 1° 23.5' to the east, and find that the Polaris meridian agrees with the solar meridian of April 15.

At 8h. 00m. a.m. l.m.t., I set off 38° 56' N. on the lat. arc; 9° 53' N. on the decl. arc; and determine a meridian with the solar, which meridian also agrees with the Polaris meridian and the solar meridian of April 15. I therefore know that the instrument is in perfect adjustment.

I test the solar apparatus during a.m. and p.m. hours of this day and find that it holds the Polaris meridian without the slightest variation

April 16, 1911.

April 19: For solar observation see lines between secs 11 and 14.

Subdivision of T. 22 S., R. 23 E.

Chains.	
	From the cor. of secs. 1, 2, 11 & 12. I run N. 0°01' W., on a true line bet. secs. 1 & 2. Gradually ascend over rolling land sloping south west, through short undergrowth of shadscale.
36.00	Low ridge; brass N. 20° W. & S. 80° E. Thence over land sloping nearly east.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on W. half and S 1 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high W. of cor.
63.85	Wash, 3 lks. wide, 3 ft. deep, course SE.
74.50	Old road, brass NW. and SE.
75.20	Wash, 5 lks. wide, 3 ft. deep, course E.
86.93	Intersect N. bdy of the tp. 11.96 chs. N. 89° 57' W., of the cor. of secs. 35 and 36 heretofore described. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 1 & 2, marked on brass cap CC T 21 S R 23 E S 35 S 36 on N. half S 1 in SE. and S 2 in SW. quadrant, dig pits, 24 x 18 x 12 ins. crosswise on each line E. and W. 3 ft., and S. of post 7 ft. dist., raise a mound of earth, 4 ft. base, 2 ft high S. of cor.

Chains

Land rolling.
Soil, alkali clay with a hard dry clay and gravel sub soil; 3rd rate
Undergrowth, short shadscale.
No timber
April 19, 1911

April 17: At 8h 00m a.m. l.m.t., I set off 38° 51' on the lat arc; 10° 15' N on the decl. arc; and determine a meridian with the solar at the cor. of secs 2, 3; 34 & 35 on the S. bdy. of the tp. heretofore described.
Thence I run
N. 0° 01' W., bet. secs. 34 & 35.
Gradually descend over mountainous land through forest of cedar and pinon and undergrowth of short shadscale.
8.00 Spur, projects NW.
Descend abruptly over huge boulders.
22.65 Hollow at bend from SW to NW., 125 ft. deep, drains NW.
Ascend 50 ft. to
28.00 Spur, projects NW.
Gradually descend.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 in. in a mound of earth and stone for 1/4 sec. cor., marked on brass cap, 1/4 S. 34 on W. half and S 35 on E. half, raise a mound of stone, 2 1/2 ft. base, 1 1/2 ft. high W. of cor.
Pits impracticable
Note: On account of natural obstacles I am unable to set post in the ground.

Subdivision of T. 22 S., R 23 E.

chains	
56.20	Wash in canyon, 30 lks. wide, 75 ft. below spur, course east. Leave cedar and juniper. Begin ascent of south face of high ridge over huge boulders.
74.70	Top of ridge, 325 ft. above base, bears N. 80° E + NW. Gradually descend.
80.00	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, marked on brass cap T 22 S S 27 in NW., R 23 E S 26 in NE., S 35 in SE. and S 34 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impract icable. Land mount amous with a general NE. drain. Soil, rocky of volcanic formation with rocky and clay sub soil; 4th rate. Timber scrub cedar and juniper on S. 56.20 chs. Undergrowth short shadscale on 80.00 chs. Land mountamous, heavily timbered or covered with dense undergrowth 80.00 chs.
	East, on a random line bet. secs. 26 + 35.
40.00	Set temporary ¼ sec. cor.
80.02	Intersect N. + S. line, 2 lks. N. of the cor. of secs. 25, 26, 35 and 36.

Chains	
	Thence I run N. 89° 59' W., on true line, bet. secs. 26 and 35. Over mountainous land draining N. through scattering forest of scrub cedar and pinon and undergrowth of shadscale. Gradually ascend.
11.50	Top of ridge, bears NE. + SW. Leave cedar and pinon, bears N. + S. Descend abruptly over rough rocky land facing nearly West.
34.30	Wash in canyon, 30 lks. wide, 350 ft. below ridge, course NE. Thence over land facing S.
40.01	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone, 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 26 on N. half, and S 35 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor. Pits impracticable. Note: On account of natural obstacles I am unable to set post in the ground. April 17: At this cor. I set off 10° 18' N. on the decl. arc; and at 12h 00m M. L. M. T., observe the sun. on the meridian; the resulting lat. is 38° 52'. Begin ascent over rocky SE. slope of ridge.
65.00	Top of ridge, 275 ft. above 1/4 cor., bears NE. + S. 80° W. Thence over land facing N.

Subdivision of T. 22 S., R. 23 E.

Chains	
80.02	The cor. of secs. 26, 27, 34 and 35. Land mount amous with a general N. drain and with steep rocky slopes of ridges. Soil, rocky of volcanic formation with a hard baked clay sub-soil; 4th rate. Timber, scrub cedar and pinon on E. 11.50 chs. Undergrowth, short shadscale. Land mount amous heavily timbered or covered with dense undergrowth 80.02 chs.
	N. 0° 01' W., bet. secs. 26 & 27. Over mount amous land facing north, through scattering cedar & pinon. Descend.
28.60	Hollow, 80 ft. deep, drains NE. Ascend 75 ft. to
31.40	Ridge, brans NE. and SW. Descend 50 ft. to
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone, 4 ft. base, 2 ft. high, for 1/4 sec. cor., marked on brass cap 1/4 S 27 on W. half and S 26 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable. Note: On account of natural obstacles I am unable to set post in the ground. No suitable trees within limits.
42.90	Hollow, 70 ft. deep, drains NE. Ascend 50 ft. to
49.25	Ridge, brans NE. and SW. Descend 100 ft. to

Chains	
62.75	Hollow, drains NE.
	Ascend 50 ft. to
68.00	Spur, projects NE.
	Descend.
72.00	Leave cedar and pinon, bears E. & W.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of earth and stone 4 ft. base, 2 ft. high for cor. of secs. 22, 23, 26 & 27, marked on brass cap T 22 S S 22 in NW., R 23 E S 23 in NE., S 26 in SE. and S 27 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Note: On account of natural obstacles, I am unable to set post in the ground. Land mount ainous with a general NE. slope and drain. Soil: rocky of sandstone formation, with a rocky and clay sub-soil; 4th rate. Timber, cedar and pinon on S. 72 chs. Undergrowth, short shadscale. Land mount ainous or heavily timbered, 80.00 chs. April 17, 1911.

April 18: At 8h. 00m. a.m. l.m.t., I set off 38° 53' on the lat. arc, 10° 36" N. on the decl. arc; and determine a meridian with with the solar at the cor. of secs. 22, 23, 26 & 27. Thence I run:

S. 89° 59' E., for a random line

Subdivision of T. 22 S., R. 23 E.

Chains	
	brt. secs. 23 & 26.
40.00	Set temporary 1/4 sec. cor.
80.04	Intersect N. & S. line 7 lks. N. of the cor. of secs. 23, 24, 25 and 26.
	Thence I run
	N. 89° 56' W., on true line brt. secs. 23 and 26.
	Gradually descend over rolling land.
1.50	Wash in hollow, course SE., ascend
28.00	Ridge, 100 ft. above sec. cor., bears N. & S.
	Descend.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S. 23 on N. half and S. 26 on S. half; dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
40.20	Hollow, drains NE.
	Ascend 50 ft. to
48.00	Low ridge, bears NE. and SW.
	Descend 40 ft. to
53.70	Hollow, drains NE.
	Thence over land facing nearly North
80.04	The cor. of secs. 22, 23, 26 and 27.
	Land rolling with general N. and east drain.
	Soil, light alkali clay with a hard clay and shale, sub-soil; 3rd rate.
	No timber.
	No Undergrowth.
	N. 0° 01' W., brt. secs. 22 and 23.
	Gradually descend over hilly land.

Subdivision of T. 22 S., R. 23 E.

Chains	
4.70	Wash, 5 lks. wide, 5 ft. deep, course NE.
	Ascend.
11.00	Low spur, projects NE.
	Descend.
15.60	Wash, 7 lks. wide, 3 ft. deep, course NE.
	Ascend
24.20	Spur, projects NE.
	Descend.
32.70	Wash and base of clay ridge, 15 lks. wide, 3 ft. deep, course N. 80° E.
	Ascend over land facing S.
40.00	At base of steep ascent, Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 22 on W. half and S 23 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
	Ascend abruptly.
41.50	Ridge, 175 ft. above wash, break E. and W.
	Gradually descend over land facing North.
71.50	Wash, 20 lks. wide, 3 ft. deep, course N. 30° E. ascend.
80.00	On top of low spur, projects N. 20° E. 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 marked on brass cap T 22 S S 15 in NW, R 23 E S 14 in NE., S 23 in SE., and S 22 in SW quadrant, dig pits, 18 x 18 x 12 ins. in each sec.,

Chains.	
	5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	Land, rolling mountainous with a general NE. drain.
	Soil gravelly and clay with a hard clay and shale sub soil; 3rd rate.
	No timber
	No undergrowth.
	April 18: At this sec. cor., I set off 10° 39' N. on the decl. arc; and at 12h. 00m. l. m. t., observe the sun on the meridian; the resulting lat. is 38° 54'.
	S. 89° 56' E., on a random line brt. secs. 14 & 23.
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect N. & S. line 5 lks. S. of the true cor. point of secs. 13, 14, 23 & 24.
	Thence I run
	N. 89° 58' W., on true line brt. secs. 14 & 23.
	Over level land in bottom of Sagers Wash.
7.65	Right bank of Sagers wash, 10 ft. high brans N. & S.
	Enter dense undergrowth of greasewood.
	Gradually ascend over rolling land.
8.50	Leave greasewood, brans N & S
18.00	Low spur, projects N.
	Gradually descend.
22.70	Wash, 5 lks. wide, 3 ft. deep, course north.
	Gradually ascend.

Chains.	
38.80	North point of spur.
	Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lks. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 14 on N. half and S 23 on S. half, dig pits, 18 x 18 x 12 lks. E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
44.40	Wash, 10 lks. wide, 2 ft. deep, course N.
50.20	Wash, 5 lks. wide, 4 ft. deep, course N.
	Ascend.
57.00	Ridge, 75 ft. high, bears N. + S.
	Descend
67.15	Wash in hollow, 10 lks. wide, 2 ft. deep, course N.
	Ascend.
74.10	Ridge, 50 ft. high bears N. + S.
	Descend 50 ft. to.
77.25	Wash in hollow, drains N.
	Ascend 35 ft. to
80.00	The cor. of secs. 14, 15, 22 and 23.
	Land hilly facing north.
	Soil, E. 8 chs sandy with rich sandy loam sub soil; 1st rate
	W 72 chs. gravelly and clay soil, with a hard dry clay and gravel sub-soil; 3rd rate.
	Undergrowth, greasewood on 585 chs.
	No timber
	N. 0° 01' W., bet. secs. 14 + 15.
	Born hilly land.
	Descend from spur.
9.40	Wash, 10 lks. wide, 2 ft. deep, course

Subdivision of T. 22 S., R. 23 E.

chains	
	NE.
17.00	Wash, 6 lks. wide, 3 ft. deep, course NE.
21.00	Base of hills, bears E. & W. Thence over level land, through dense greasewood undergrowth.
38.35	Right bank of Sagers Wash, Course E
40.00	Point for 1/4 sec. cor. in wash, No cor. set.
40.60	Left bank of wash, course E. Gradually ascend
41.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap, T 22 S R 23 E on N. half, S. 14 on E. half, S 15 on W. half, with W C 1/4 to the south, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
42.00	Leave greasewood, bears E. & W.
78.50	Ridge or bluff, 150 ft. above wash, bears N. 80° E & West. Gradually descend.
80.00	Set an iron post, 3 ft. long 2 ins. in dia., 24 ins. in the ground for cor. of secs. 10, 11, 14 & 15, marked on brass cap T 22 S S 10 in NW., R 23 E S 11 in NE., S 14 in SE. and S 15 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land hilly and level. Soil, gravelly and clay; 2nd rate

Chains

Sub soil, clay and gravelly, Underg rowth, greasewood on 21 ch's.
No timber

April 18, 1911

April 19: At 6h 59m a.m. l.m.t., I set off 39° 55' on the lat. arc; 10° 57' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 10, 11, 14 & 15
Thence I run
S. 89° 58' E., on a random line, bet. secs. 11 & 14
40.00 Set temporary 1/4 sec. cor.
80.00 Intersect N. & S. line 5 lks. S. of the cor. of secs. 11, 12, 13 & 14.
Thence I run
West, on true line bet. secs. 11 & 14.
Over rolling land facing S.
33.25 Wash, 20 lks. wide, 15 ft. deep, course S.
35.15 Wash, 10 lks. wide, 5 ft. deep, course S.
36.90 Wash, 15 lks. wide, 12 ft. deep, course S.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap 1/4 S 11 on N. half and S 14 on S. half; dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
42.60 Wash, 25 lks. wide, 20 ft. deep, course S. 20° E.
Gradually ascend.
70.00 Top of ridge, bears N. 80° E & S. 80° W.
Thence over land facing N.

Subdivision of T. 22 S., R. 23 E.

Chains	
80.00	The cor. of secs. 10, 11, 14 & 15 Land, rolling with a general south drain. Soil, adobe clay with a hard dry clay sub soil; 3rd rate. No timber. No Undergrowth.
	N. 0° 01' W., bet. secs. 10 & 11. Gradually descend over rolling land.
39.80	Wash. 10 lks. wide, 5 ft. deep, course SE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 10 on W. half and S 11 on E. half; dig pits 18 x 18 x 12 ins. N. and S. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor. Thence over rolling land across numerous small washes, draining SE.
80.00	Set an iron post, 3 ft. long, 2 in. in dia., 24 ins. in the ground for cor. of secs. 2, 3, 10 & 11, marked on brass cap T 22 S S 3 in NW., R 23 E S 2 in NE., S 11 in SE. and S 10 in SW., quadrant, dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land, rolling with a general SE. drain. Soil, light adobe clay with a

Chains	
	hard dry clay sub soil; 3rd rate No timber No Underg rowth
	East, on a random line bet. secs. 2 & 11
40.00	Set temporary 1/4 sec cor.
80.04	Intersect N. & S. line 2 lks. N. of the cor. of secs. 1, 2, 11 & 12. Thence I run. N. 89° 59' W., on true line, bet. secs. 2 & 11. Over rolling land sloping S.
6.25	Wash, 5 lks wide, 3 ft. deep, course S.
12.75	Wash, 10 lks. wide, 4 ft. deep, course S.
20.00	Wash, 6 lks. wide, 3 ft. deep, course S.
29.40	Wash, 10 lks. wide, 5 ft. deep, course S.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on N. half and S 11 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
59.00	Wash, 10 lks. wide, 4 ft. deep, course S.
63.85	Wash, 15 lks. wide, 5 ft. deep, course S.
79.00	Wash, 10 lks. wide, 5 ft. deep, course SE.
80.04	The cor. of secs. 2, 3, 10 & 11. Land rolling with a general slope and drain to the south. Soil, light alkali clay with a hard dry clay sub-soil; 3rd rate. No timber.

Chains	
	No underg rowth. April 19: At this sec. cor., I set off 11° 00' 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° 55½'
	N. 0° 01' W., on true line bet. secs. 2 & 3. Over rolling land cut by numerous small washes, draining SE.
1.40	Wash, course SE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 3 on W. half and S 2 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.
49.50	Wash, 10 lks. wide, 5 ft. deep, course E.
86.99	Intersect N. bdy. of the tp. 12.02 chs. S. 89° 56' W. of the cor. of secs. 34 and 35 heretofore described. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 2 & 3, marked on brass cap. CCT 21 S R 23 S 34 S 35 on N. half, S 2 in SE. and S 3 in SW. quadrant, dig pits, 24 x 18 x 12 ins. crosswise on each line, E. and W. 3 ft. and S. of post 7 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high S. of cor. Land rolling with a general

Chains	
	SE. slope and drain. Soil, light alkali clay with a hard dry clay and shale sub soil; 3rd rate. No timber No Undergrowth.
	April 20: At 7h 59m a.m. l.m.t., I set off 38° 51' on the lat. arc., 11° 18' N. on the decl. arc., and determine a meridian with the solar at the cor. of secs. 3, 4, 33 & 34 on the S. bdy. of the tp. heretofore described. Thence I run N. 0° 02' W., bet. secs. 33 & 34. Over mount among land through forest of cedar and juniper. Ascend SE. slope over series of ledges.
16.75	Ridge, 175 ft. above sec. cor., bears N. 80° E. and S. 80° W. Descend over land facing NW.
39.80	Hollow, 150 ft. deep, drains NE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 33 on W. half and S 32 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. No suitable trees within limits.
46.40	Rocky spur, 100 ft. above 1/4 cor., projects E. Descend.
56.40	Canyon wash, 70 lks. wide, in hollow, 100 ft. deep course E. Ascend abruptly

Subdivision of T. 22 S., R. 23 E.

Chains	
77.10	Spur, 150 ft. above, wash, projects E.
	Gradually descend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone and earth for cor. of secs. 27, 28, 33 & 34, marked on brass cap. T 22 S S 28 in NW., R 23 E S 27 in NE., S 34 in SE. and S 33 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable No suitable trees within limits Note: On account of natural obstacles I am unable to set post in the ground Land mountainous with a general NE. drain Soil, rocky and gravelly, with a rocky sub-soil; 4th rate. Timber, scrub cedar & pinon. Undergrowth some short chaparral. Land mountainous or heavily timbered 80.00 chs.
	East, on a random line bet. secs. 27 and 34.
40.00	Set temporary ¼ sec. cor.
79.96	Intersect N. & S. line, 5 lks. S. of the cor. of secs. 26, 27, 34 & 35 Thence I run. S. 89° 58' W., on true line, bet. secs. 27 & 34. Over mountainous land facing N.

Chains

15.00 Ridge, bears NW. and S.85°E.
Descend rocky land facing SW.
over series of ledges and huge
boulders.
36.00 Hollow, 350 ft. deep, drains SW.
Begin to ascend.
39.95 Set an iron post, 3 ft. long, 1 in.
in dia., 26 ins. in the ground
for 1/4 sec. cor., marked on
brass cap 1/4 S 27 on N. half.
and S 34 on S. half, raise a
mound of stone, 2 ft. base, 1 1/2
ft. high N. of cor.
Pits impracticable.
46.50 Top of low bench and S. point
of ledge, bears NE. & W.
Thence along side of ledges.
58.50 Leave bench, bears NW. & SE.
Descend 75 ft. to
62.90 Hollow, drains SE.
Ascend 100 ft. to
79.96 The cor. of secs. 27, 28, 33 & 34.
Land mountainous with steep
rocky slopes and a general
drain to the east.
Soil, rocky of volcanic formation;
4th rate.
Sub soil, rocky and a hard baked
clay. 4th rate.
A few scattering cedar on W. 5 chs.
No undergrowth.
Mountainous land 79.96 chs.
April 20: At this sec. cor., I set off
11h 20½m N. on the decl. arc., and at
11h 59m a.m. l.m.t., observe the
sun on the meridian the result-
ing lat. is. 38° 52' which is the
proper lat.

Subdivision of T. 22 S., R. 23 E.

Chains	
	N. 0° 02' W., bet. secs. 27 + 28.
	Over mount amous land through
	scattering scrub cedar and
	pinon.
	Descend 50 ft. to
3.85	Hollow, drains E.
	Ascend abruptly 225 ft. to
18.00	High ridge, bears E. + W.
	Descend abruptly over ledges.
40.00	275 ft. below ridge.
	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4
	sec. cor., marked on brass cap 1/4
	S 28 on W. half and S 27 on E.
	half, raise a mound of stone,
	2 ft. base, 1½ ft. high W. of cor.,
	Pits impracticable
42.00	Hollow, drains NE.
	Leave scattering cedar + pinon.
	Ascend 75 ft. to
48.00	Ridge, bears N. 60° E. + S. 60° W.
	Descend.
64.00	Hollow, 100 ft. deep, drains N. 20°
	E.
	Ascend 75 ft. to
78.00	Ridge spur, projects 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. 21, 22, 27 and 28,
	marked on brass cap,
	T 22 S S 21 in NW.,
	R 23 E S 22 in NE.,
	S 27 in SE. and
	S 28 in SW. quadrant,
	raise a mound of stone, 2 ft.
	base, 1½ ft. high W. of cor.
	Pits impracticable
	Land mount amous, draining

chains

NE.
Soil, rocky of volcanic formation on rocky and clay sub soil; 4th rate.
Timber, scattering scrub cedar and pinon, on S. 42. chs.
No under-growth.
Some good grass for grazing.
Land mountainous or heavily timbered 80.00 chs.

N. 89° 58' E., on a random line bet. secs. 22 + 27.
40.00 Set temporary 1/4 sec. cor.
79.92 Intersect N. + S. line 5 lks. N. of the cor. of secs. 22, 23, 26, + 27.
Thence I run
West, on true line bet. secs. 22 + 27.
Over mountainous land draining N.
3.85 Wash, 10 lks. wide, course NE.
Ascend.
26.00 Low ridge, 75 ft. high, bears NE. and SW.
Descend abruptly over ledges.
30.50 Wash in hollow, 50 ft. deep, drains NE.
Ascend.
39.96 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 22 on N. half and S 27 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
Pits impracticable
48.00 Ridge, 100 ft. high, bears N. + S.
Descend abruptly.
55.50 Hollow, 100 ft. deep, drains N. 20° E.

Subdivision of T. 22 S., R. 23 E.

Chains	
	Ascend 75 ft. to
67.50	Ridge, bears N. & S.
	Descend 50 ft.
69.75	Hollow, drains N.
	Ascend 75 ft. to
79.92	The cor. of secs. 21, 22, 27 & 28.
	Land, mountainous, draining N.
	Soil, rocky and gravelly, 3 ft. deep on bed rock sub soil of sand stone formation: 4th rate.
	No timber.
	Underrowth, some short shadscale.
	Mountainous land 79.92 chs.
	April 20, 1911

April 21: At 7h. 29m. a.m. l. m. t., I set off 38° 53' on the lat. arc., 11° 38' 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 & 22.
Over mountainous land through short underrowth of shadscale
Descend 75 ft. to

3.90	Wash in hollow, 15 lks. wide, course NE.
	Ascend abruptly over ledges.
5.75	Rocky ridge, 75 ft. above hollow, bears E. and SW. descend.
31.50	Wash and base of descent, 10 lks. wide, 5 ft. deep, 150 ft. below ridge, course NE.
	Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 in. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 21 on W. half and S 22 on

Subdivision of T. 22 S., R. 23 E.

Chains	
	E. half, 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.
64.90	Wash, 10 lks. wide, 3 ft. deep, course NE.
	Ascend 50 ft. to
70.00	Ridge, bears N. & S. 70° W.
	Thence along ridge
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 15, 16, 21, and 22. marked on brass cap
	T 22 S S 16 in NW.,
	R 23 E S 15 in NE.,
	S 22 in SE. and
	S 21 in SW. quadrant,
	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 with a general north drain.
	Soil, gravelly, clay and rocky with a hard clay and rock sub soil; 3rd rate.
	Undergrowth, short shadscale
	No timber
	Mountainous land 80.00 chs.
	Note: This cor. is situated on the north point of ridge
	East, on a random line bet. secs. 15 and 22.
40.00	Set temporary ¼ sec. cor.
79.90	Intersect N. & S. line at the cor. of secs. 14, 15, 22 and 23
	Thence I run
	West, on true line bet. secs. 15 & 22 over hilly land draining N.

Subdivision of T. 22 S., R. 23 E.

Chains	
	Descend.
8.50	Wash, 10 lks wide, 3 ft. deep, course NE.
	Gradually ascend.
36.00	Ridge, bears N. & S.
	Descend 75 ft to
39.95	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 15 on N. half and S 22 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
42.60	Wash in hollow, 20 lks. wide, 3 ft. deep, course N.
	Ascend 75 ft to
51.00	Ridge, bears N. & S.
	Descend 30 ft to
56.50	Wash, 30 lks. wide, 3 ft. deep course N. 30° W.
	Enter scattering greasewood undergrowth, bears NE & SW
	Gradually ascend.
77.00	Leave greasewood and base of ridge, bears N. & S.
	Ascend 60 ft to
79.90	The cor. of secs. 15, 16, 21 & 22.
	Land, hilly, draining N.
	Soil, gravelly and clay with a clay and gravel sub-soil; 3rd rate.
	No timber
	Undergrowth greasewood on 20.50 chs.
	N. 0° 02' W., bet. secs. 15 & 16.
	over hilly land.
	Descend from ridge
2.00	Base of ridge, bears SE & SW

Same

Enter dense greasewood undergrowth
Thence over level land
19.00 Rogers wash, 75 lks. wide, 15 ft. deep, course E.
The junction of Rogers, Nash and Monument washes near group of cottonwood trees, bears NW. about 8 chs.
Leave greasewood.
Gradually ascend over rolling land.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 16 on W. half and S 15 on E. half; dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
70.05 Wash, 10 lks. wide, 6 ft. deep, course W.
80.00 Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for cor. of secs. 9, 10, 15 & 16, marked on brass cap
T 22 S S 9 in NW.,
R 23 E S 10 in NE.,
S 15 in SE. and
S 16 in SW. quadrant,
dig pits, 18 x 18 x 12 ins. in each sec., 3 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
Land rolling and level with an easterly drain.
Soil, light clay loam and adobe clay with a hard clay and shale sub soil, 2nd and 3rd rates.

Chains	
	Undergrowth, dense greasewood on 17th chs. No timber
	East, on a random line, bet. secs. 10 & 15
40.00	Set temporary 1/4 sec. cor.
79.84	Intersect N. & S. line 5 lks. N. of the cor. of secs. 10, 11, 14 & 15. Thence I run: N. 89° 58' W., on true line bet. secs 10 & 15. Over rolling land, gradually ascending along N. slope of low ridge
8.00	Ridge, bears N. 80° W. & S. 80° E. Descend over rolling clay hills.
16.50	Wash, 10 lks. wide, 10 ft. deep, course S.
39.92	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 10 on N. half and S 15 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
49.20	Wash, 6 lks. wide, 3 ft. deep, course S. 20° E. Thence over land draining SW.
79.84	The cor. of secs. 9, 10, 15 & 16. Land, rolling. Soil, clay and gravelly; with a hard clay sub-soil; 1st and 3rd rates. No undergrowth. No timber. April 21: At this sec. cor, I set off 11° 41' N. on the decl. arc; and at 11h 59m a.m. l.m.t., observe the sun

chains

on the mer.: the resulting lat. is 38°55'

N. 0° 02' W., bet. secs. 9 & 10
Gradually ascend over rolling land through short undergrowth of chaparral.
10.60 Wash, 5 lks. wide, 5 ft. deep, course W.
29.00 Low ridge, trend E. & W.
Gradually descend.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 9 on W. half and S 10 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
50.95 Wash, 5 lks. wide, 2 ft. deep, course W.
80.00 Set an iron post, 3 ft. long, 2 ins. in dia., 26 ins. in the ground for cor. of secs. 3, 4, 9 & 10, marked on brass cap

T 22 S S 4 in NW.,
R 23 E S 3 in NE.,
S 10 in SE. and
S 9 in SW. quadrant,

dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
Land rolling with a westerly drain
Soil, clay with a hard dry clay sub soil, 3rd rate
Undergrowth, short chaparral
No timber

chains	
	S. 89° 58' E., on a random line bet. secs. 3 & 10.
40.00	Set temporary 1/4 sec. cor.
79.84	Intersect N. & S. line 5 lks. S. of the cor. of secs. 2, 3, 10 & 11. Thence 2 chns West, on true line, bet. secs. 3 & 10 over rolling land draining SE. Through short undergrowth of shadscale.
10.45	Wash, 5 lks. wide, 2 ft. deep, course S.
15.00	Wash, 8 lks. wide, 3 ft. deep, course S.
39.92	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 3 on N. half and S 10 on S. half, dig pits, 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor. Thence over nearly level land draining W.
79.84	The cor. of secs. 3, 4, 9 & 10. Land, rolling and level. Soil, adobe clay with a hard clay sub-soil, 3rd rate Undergrowth, short shadscale No timber
	N. 0° 02' W., on true line bet. secs. 3 & 4 Gradually ascend over rolling land through short undergrowth of shadscale.
7.35	Wash, 20 lks. wide, 5 ft. deep, course W.
40.00	Set an iron post, 3 ft. long, 1 in. in

Chains	
	dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 4 on W. half and S 3 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
86.95	Intersect N. bdy. of the tp. 11.77 chs. S. 89° 57' W., of the cor. of secs. 33 & 34 heretofore described.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for closing cor. of secs. 3 & 4 marked on brass cap
	CCT 21 S R 23 E S 33 S 34 on N. half, S 4 in SW. and S 3 in SE. quadrant, dig pits, 24 x 18 x 12 ins. crosswise on each line, E. and W. 3 ft., and S. of post 7 ft. dist., raise a mound of earth 4 ft. base 2 ft. high S. of cor.
	Land, rolling.
	Soil, clay and gravelly with a hard dry clay sub-soil; 3rd rate.
	Undergrowth short shadscale
	No timber
	April 21, 1911.
	April 22: At 8h 29m a. m. l. m. t., I set off 38° 51' on the lat. arc; 11° 59' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 4, 5, 32 and 33 on the S. bdy. of the tp. heretofore described.
	Thence I run
	N. 0° 03' W., bet. secs. 32 & 33
	over mountainous land through

Chains	
	scattering forest of scrub cedar and pinon.
6.25	Ridge, bears NE. and SW.
	Thence descend over rocky land facing NW.
34.60	Wash in Canyon, 20 lks. wide, 5 ft. deep, 125 ft. below, ridge, course E.
	Begin ascent over boulders
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 32 on W. half and S 33 on E. half; raise a mound of stone 2 ft. base 1½ ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
	Leave boulders, gradually ascend over sandstone bed rock.
51.90	Ridge, 100 ft. high, bears E. & W.
	Gradually descend.
69.65	Perpendicular sandstone ledge, 50 ft. high, bears E & W.
	Descend abruptly 100 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 28, 29, 32 & 33 marked on brass cap T 22 S S 29 in NW., R 23 E S 28 in NE., S 33 in SE. and S 32 in SW. quadrant; 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.

chains	
	Land, mountainous.
	Soil, rocky with a rocky sub-soil of volcanic formation; 4th rate
	Timber some scrub cedar and pinon.
	Undergrowth a short shadscale.
	Mountainous or timbered land
	80.00 chs
	East, on a random line bet. secs. 28 & 33.
40.00	Set temporary 1/4 sec. cor.
80.12	Intersect N. & S. line 7 lks. N. of the cor. of secs. 27, 28, 33 & 34.
	Thence I run.
	N. 89° 57' W., on true line bet. secs. 28 and 33.
	Over rough mountainous land through scattering forest of scrub cedar and pinon
	Ascend east face of rocky spur.
7.35	Spur, 75 ft. above cor., projects S.
	Leave cedar and pinon, descend abruptly over SW. slope over huge boulders
15.90	Leave boulders, brass NW. and SE.
22.10	Wash, 20 lks. wide, and base of descent, 175 ft. below spur, course SE.
	Gradually ascend.
27.00	Ridge, 75 ft. high, brass N. & S.
	Descend
37.10	Hollow, 50 ft. deep, drains S.
	Ascend
40.06	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 28 on N. half and S 33 on S. half, raise a mound of

Chains	
	stone, 2 ft. base, 1½ ft. high, N. of cor.
	Pits impracticable
51.45	Ridge, 70 ft. high, bears NE. & SW.
	Gradually descend
61.70	Wash, 10 lks. wide, 2 ft. deep, course NW.
68.00	Descend abruptly 125 ft. over ledges to
80.12	The cor. of secs. 28, 29, 32 & 33.
	Land, mountainous with a southerly slope and drain.
	Soil, rocky with a hard clay and rock sub soil of volcanic formation; 4th rate.
	Timber, some scrub cedar and pinon on E. 7.35 chs.
	No undergrowth.
	Mountainous or timbered land 80.12 chs.
	April 22: At this sec. cor. I set off 12°01½' N. on the decl. arc; and at 11h 59m a.m. l. m.t., observe the sun on the meridian; the resulting lat. is 38°52' which is the proper latitude
	N. 0°03' W., bet. secs. 28 and 29.
	Gradually descend over mountainous land, through short undergrowth of shadscale.
6.00	Wash, 20 lks. wide, 4 ft. deep, course N. 30° E.
16.00	Same wash, course NW.
	Ascend SW. slope of spur over ledges and boulders
21.80	Spur, 110 ft. high, projects W.
	Descend abruptly.
39.60	Wash in hollow, 125 ft. deep, course NW.

Chains.	
	Ascend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 29 on W half and S 28 on E. half; raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
48.50	Top of ascent and spur 100 ft. above, 1/4 cor., projects W.
	Thence over land sloping N.
57.80	Wash, 25 lks. wide, 4 ft. deep, course NE.
67.60	Same wash, course NW.
70.25	Same wash, course NE.
	Base of high ridge, bears NE. & SW.
	Thence over eastern slope.
80.00	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. 20, 21, 28 and 29, marked on brass cap T 22 S S 20 in NW., R 23 E S 21 in NE., S 28 in SE., and S 29 in SW., quadrant, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Note: on account of natural obstacles I am unable to set post in the ground.
	Land mountainous draining N.
	Soil, rocky 4th rate. sub-soil rocky.
	No timber
	Undergrowth, short shadscale.
	Mountainous land 80.00 chs.
	April 22, 1911

Subdivision of T. 22 S., R. 23 E.

chains

April 24: At 7h. 58m. a.m. l.m.t., I set off 38°53' on the lat. arc; 12°39' 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 S. 89°57' E., on a random line bet. secs. 21 & 28.

40.00 Set temporary 1/4 sec. cor.

80.04 Intersect N. & S. line 7 lks. S. of the cor. of secs. 21, 22, 27 and 28.

Thence I run West, on true line bet. secs. 21 & 28. Over mountainous land through dense undergrowth of short shadscale.

Descend.

7.85 Wash in hollow, 15 lks. wide, 40 ft. below sec. cor., course NE.

Ascend abruptly

12.75 Rocky ridge, 80 ft. high, bears NE. and SW.

Thence over land facing N.

38.95 Descend abruptly into canyon.

40.02 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 21 on N. half and S 28 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.

Pits impracticable.

40.20 Wash in canyon, 20 lks. wide, 75 ft below top, course N.

Ascend 100 ft. to

50.00 Ridge, bears N. & S.

Descend 225 ft. over rocky land facing SW. to

Lubbinsen of T. 22 S., R. 23 E.

Name

[illegible] Wash in canyon, 25 lbs wide, course N 10° E.
Gradually ascend
[illegible] Pile cor. of secs. 20, 21, 28 and 29
Land mountainous with a
general north drain
Soil rocky 4th rate
Lib. soil, rocky
[illegible]
Undergrowth, short shadscale
Mountainous land, [illegible]

[illegible] 10° 03' W, bet secs 20 and 21
Over mountainous land
Ascend steep rocky SE slope of
spur, over ledges and boulders
[illegible] Spur, 150 ft. above sec. cor., projects
E.
Descend 25 ft. to
[illegible] Hollow, drains E.
Ascend 50 ft. to
[illegible] Spur, projects E.
Descend 50 ft. to
[illegible] Hollow, drains E.
Ascend 75 ft. to
[illegible] Rocky ledge, trans NE & SW.
Descend abruptly
[illegible] Set an iron post, 3 ft. long, 1 in.
in dia., 16 ins. in the ground
for the sec. cor., marked on
brass cap N S 20 on W half
and S 21 on E half, raise a
mound of stone, 2 ft. base, 1½
ft. high W. of cor.
Pile impracticable
[illegible] Wash in canyon, 30 lbs wide,
[illegible] ft. below ledge, course NE.
Ascend 50 ft. to
[illegible] Ledge, trans NE and SW

Chains	
	Gradually descend.
64.60	Wash, 20 lks. wide, 5 ft. deep, course NE.
	Thence over nearly level land through scattering greasewood.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 16, 17, 20 & 21 marked on brass cap
	T 22 S S 17 in NW., R 23 E S 16 in NE., S 21 in SE. and S 20 in SW. quadrant, 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 with a general north drain.
	Soil rocky and clay with a rocky and clay sub soil; 3rd & 4th rates.
	No timber
	Some greasewood undergrowth
	on N. 15.40 chs.
	April 24: At this sec. cor. I set off 12° 41½' N. on the decl. arc; and at 11h 58m a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 54'
	The cor. of secs. 15, 16, 21 & 22 being plainly visible, I run for said cor. S. 89° 59' E., on a random line bet. secs. 16 & 21.
40.00	Set temporary 1/4 sec. cor.
80.14	Intersect the cor. of secs. 15, 16, 21 and 22.
	Thence I run N. 89° 59' W., on true line bet. secs. 16 & 21.

chains	
	Over hilly land
	Descend 45 ft. to
1.50	Base of ridge, bears N. & S.
	Enter greasewood undergrowth and bottom land along
	Monument wash.
11.50	Wash, 10 lks. wide, 10 ft. deep, course N.
27.60	Monument wash, 50 lks. wide, 15 ft. deep, course N. 70° E.
	Thence along north side of wash.
40.07	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 16 on N. half and S 21 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
63.50	Monument wash, course SE.
75.70	Same wash, course NE.
76.60	Same wash, course S. 80° E.
80.14	The cor. of secs. 16, 17, 20 & 21.
	Land rolling and hilly.
	E. 1.56 chs. hilly land, W. 78.64 chs. rolling land with general E. drain.
	Soil, light clay; 2nd rate, with a hard clay and shale sub soil; 3rd rate
	Undergrowth, greasewood on 78.50 chs.
	No timber

N. 0° 03' W., bet. secs. 16 & 17.
Over nearly level bottom land through dense undergrowth of greasewood

Subdivision of T. 22 S., R. 23 E.

Chains.	
7.80	Monument wash, 50 lks. wide, 15 ft. deep, course SE. Leave greasewood undergrowth and enter hilly land. Ascend.
16.00	Ridge, 100 ft. above wash, bears E. and W. Gradually descend over land facing North.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 lks. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on W. half and S 16 on E. half, dig pits 18 x 18 x 12 lks. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high W. of cor.
46.50	Wash, 10 lks. wide, 2 ft. deep, course NE. Thence across numerous small washes draining E.
71.00	Sagers wash, 1 ch. wide, 25 ft. deep, course SE.
77.40	Same wash, course SW
80.00	Point for cor. of secs. 8, 9, 16 & 17 falls in center of Sagers wash where cor. cannot be set. Set temporary cor. for future reference. Land hilly and rolling with a general east drain. Soil, a light clay with a gravel and hard clay sub soil; 3rd rate. Undergrowth, greasewood on S 7.80 chs. No timber

April 24, 1911

Chains.

April 25: At 7h 58m a.m. l.m.t., I set off 38° 55' on the lat. arc; 12° 58 1/2' N. on the decl. arc; and determine a meridian with the solar at the true cor. point of secs. 8, 9, 16 & 17.
Thence I run
S 89° 59' E., on a random line bet. secs. 9 & 16.
40.00 Set temporary 1/4 sec cor.
80.15 Intersect N. & S. line 2 lks. S. of the cor. of secs. 9, 10, 15 and 16.
Thence I run
West, on true line, bet. secs. 9 & 16.
Gradually descend over rolling land.
16.90 Wash, 10 lks. wide, 5 ft. deep, course SW.
19.20 Wash, 10 lks. wide, 10 ft. deep, course SW.
33.00 Enter dense greasewood undergrowth, brak N. & S.
36.20 Nash wash, 50 lks. wide, 5 ft. deep, some alkali water, course S.
40.07 1/4 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 9 on N. half and S 16 on S. half, dig pits, 18 x 18 x 12 ins. E. and W., of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
44.30 Leave undergrowth, brak N. & S.
67.25 Wash, 10 lks. wide, 5 ft. deep, course S.
69.65 Wash, 10 lks. wide, 5 ft. deep, course S.
78.00 Rogers wash at bend from

Subdivision of T. 22 S., R. 23 E.

Chains

West to SW.

80.15 The true cor. point of secs. 8, 9, 16 & 17.
Land, rolling with a general south drain.
Soil, alkali clay with a clay sub-soil; 3rd rate.
Undergrowth greasewood on 11.30 chs.
No timber

N. 0° 03' W., bet. secs. 8 and 9.
Ascend from Sagers Wash.

0.90 Top of left bank of wash.
Set an iron post 3 ft. long, 2 ins. in dia., 24 ins. in the ground for witness cor. to secs. 8, 9, 16 & 17, marked on brass cap,

T 22 S	R 23 E
S 8	S 9
WC	
S 17	S 16

, 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.

12.75 Wash, 10 lks. wide, 5 ft. deep, course SW.
Gradually ascend

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 8 on W. half and S 9 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.

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

Subdivision of T. 22 S., R. 23 E.

Same

T 22 S S 5 m NW.,
R 23 E S 4 m NE.;
S 9 m SE. and
S 8 m SW. quadrant,
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, rolling with a general south drain.
Soil, clay with a hard clay sub-soil; 3rd rate.
No timber
No undergrowth.

The cor. of secs. 3, 4, 9 & 10 being plainly visible, I run for said cor., N. 89° 56' E., on a random line bet. secs. 4 and 9.

10.00 Set temporary 1/4 sec. cor.

80.14 Intersect the cor. of secs. 3, 4, 9 & 10

Thence I run S. 89° 56' W., on a true line bet. secs. 4 & 9.

Gradually descend over gently rolling land.

5.00 Wash, 15 lks. wide, 5 ft. deep, course S.

17.50 Enter dense greasewood undergrowth brace N. & S.

28.30 Wash, 60 lks. wide, 10 ft. deep, course N. 80° W.

33.30 Same wash, course S.

40.04 Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 4 on N. half and S 9 on S. half, dig pits, 18 x 18 x 12 ins. E.

Chains	
	W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
56.70	Nash wash, 50 lks. wide, 10 ft. deep, course S. 20° E.
	Leave greasewood, gradually ascend
80.14	The cor. of secs. 4, 5, 8 & 9.
	Land, gently rolling, draining S.
	Soil, alkali clay with a clay sub soil; 3rd rate
	Undergrowth dense greasewood on 39.20 chs.
	April 25: At this sec. cor. I set off 13° 01' N. on the decl. arc; and at 11h 58m a. m. l. m. t., observe the sun on the meridian the resulting lat. is 38° 56'
	N. 0° 03' W., on true line bet. secs. 4 & 5 over rolling land sloping E. through short undergrowth of shadscale.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 5 on W. half and S 4 on E. half; dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
44.00	Enter greasewood undergrowth, bears NW & SE.
57.25	Nash wash, 50 lks. wide, 15 ft. deep, course SE.
62.00	Same wash, course SW.
64.00	Same wash, course SE.
72.00	Leave greasewood undergrowth, bears NW. & SE.

Chains

Ascend south side of knoll
75.50 Top of east side, 50 ft. high.
Descend
76.50 Base of knoll bears SE & W.
Thence over nearly level land
87.00 Intersect N. bdy. of the tp. 11.80 chs.
S. 89° 42' W., of the cor. of secs. 32 & 33
heretofore described
Set an iron post, 3 ft. long, 2 ins. in
dia., 24 ins. in the ground for
closing cor. of secs. 4 & 5, marked
on brass
CC T 21 S R 23 E S 32 S 33 on N. half,
S 4 in SE. and
S 5 in SW. quadrant,
dig pits, 24 x 18 x 12 ins. crosswise
on each line E. & W. 3 ft., and S.
of post 7 ft. dist., raise a mound
of earth 4 ft. base 2 ft. high S. of
cor.
Land, rolling, draining S. & E.
Soil, clay and gravelly with a
hard clay sub-soil; 3rd rate.
Undergrowth, shadscale and
greasewood. Greasewood under-
growth on 28 chs.
No timber
April 25, 1911.

April 26: At 7h 58m a.m. l.m.t.,
I set off 38° 51' on the lat. arc; 13° 18'
N. on the decl. arc., and determine
a meridian with the solar at the
cor. of secs. 5, 6, 31 & 32 on the S. bdy.
of the tp. heretofore described
Thence I run
N. 0° 03' W., bet. secs. 31 & 32.
Gradually ascend over mount-
ainous land, through scattering

Chains.	
	forest of cedar and juniper and undergrowth of shadscale.
10.00	Ridge, 50 ft. above sec. cor., brass NE. & SW.
	Thence descend over rocky land facing NW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 31 on W. half and S 32 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
46.00	Head of hollow, 175 ft. below ridge, drains NW.
	Ascend 75 ft. to
56.00	Spur, projects NW.
	Descend abruptly over ledges.
64.10	Hollow, 100 ft. below spur, drains NW.
66.00	Same hollow, drains NE.
75.50	Same hollow, drains NW.
	Thence over rocky land facing W.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone 4 ft. base, 2 ft. high for cor. of secs. 29, 30, 31 & 32 marked on brass cap, T 22 S S. 30 in NW., R 23 E S 29 in NE., S 32 in SE. and S 31 in SW. quadrant, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
	Land mountainous with a general north drain.

Chains	
	Soil, rocky on a sub soil of solid sandstone bed rock; 4th rate. Timber, some scrub cedar & pinon. Undergrowth, short shadscale. Land mountainous or heavily timbered 80.00 chs.
	East, on a random line, bet. secs. 29 & 32.
40.00	Set temporary 1/4 sec. cor.
79.90	Intersect N. & S. line 7 lks. N. of the cor. of secs. 28, 29, 32 & 33. Thence I run N. 89° 57' W., on true line bet. secs. 29 & 32. Over mountainous land facing N., through scattering forest of scrub cedar and pinon and undergrowth of shadscale.
2.75	Wash, 20 lks. wide, 5 ft. deep, course N.
23.10	Wash, 15 lks. wide, 4 ft. deep, course NW.
38.30	Wash, 25 lks. wide, 6 ft. deep, course N. 30° E. Ascend gradually.
39.95	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 29 on N. half and S 32 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor., Pits impracticable
67.00	Ridge, bears NE. & S. Descend abruptly over ledges and boulders.
71.00	Wash and base of ridge, 100 ft. below top, course NW.

Chains	
	Gradually descend.
79.90	The cor. of secs. 29, 30, 31 & 32.
	Land, mountainous.
	Soil, rocky; 4th rate. sub-soil rocky.
	Timber, scrub cedar & pinon.
	Undergrowth, short shadscale.
	Land mountainous or heavily timbered 79.90 chs.
	April 26: At this sec. cor., I set off 13°21' N. on the decl. arc; and at 11h. 58m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38°52'.
	West, on a random line bet. secs. 30 and 31.
40.00	Set temporary 1/4 sec. cor.
66.03	Intersect W. bdy. of the tp. at the cor. of secs. 25, 30, 31 & 36 heretofore described.
	Thence I run
	East, on true line bet. secs. 30 & 31. over mountainous land, through scattering cedar & pinon and undergrowth of shadscale.
	Descend 10 ft. to
1.00	Wash near head, 6 lks. wide, course N. 30° W.
	Ascend abruptly over ledges.
10.00	Ridge, 125 ft. high, bears N. & S.
	Thence gradually descend over series of small rocky bruches.
76.03	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of earth and stone for 1/4 sec. cor., marked on brass cap 1/4 S 30 on N and S 31 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of

Subdivision of T. 22 S., R. 23 E.

Chains	
	cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
28.00	Leave cedar & pinon, descend abruptly over land facing E.
40.00	Wash in canyon, 150 ft. deep, some water, course NE.
	A spring of good water, bears S. 1 ch.
	Ascend 50 ft. to
42.00	Low ridge, bears N. & S.
	Descend 50 ft. to
45.10	Wash in hollow, 15 lks. wide, some water, course N.
	Thence over land facing North across series of small ridges and draws.
66.03	The cor. of secs. 29, 30, 31 & 32.
	Land, mountainous.
	Soil, rocky on rocky sub soil of solid sandstone; 4th rate.
	Timber, cedar and pinon on 28 chs
	Undergrowth, short shadscale
	Land mountainous or heavily timbered 66.03 chs
	N. 0°03' W., bet. secs. 29 & 30.
	over rocky land facing W.
4.00	Wash 20 lks. wide, course W.
	Ascend over huge boulders.
7.20	Ridge, 75 ft. high, bears E & W.
	Leave boulders, gradually descend.
25.25	Hollow, 75 ft. deep, drains W.
	Ascend over ledges and boulders
37.70	Spur, 125 ft. high, projects W.
	Gradually descend

Subdivision of T. 22 S., R. 23 E.

chains	
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 30 on W. half and S 29 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable Note: On account of natural obstacles I am unable to set post in the ground
	April 26, 1911
	April 27: At 7h 58m. a. m. l. m. t., I set off 38° 52 1/2' on the lat. arc; 13° 38' N. on the decl. arc; and determine a meridian with the solar at this 1/4 sec. cor. Thence I run N. 0° 03' W.,
55.05	Wash in canyon, 50 lks. wide, some alkali water, 175 ft. below spur, course NE. Ascend abruptly over ledges.
64.00	Ridge, 100 ft. high, bears E. + W. Gradually descend.
78.20	Wash, 15 lks. wide, 3 ft. deep, course E.
80.00	At base of rocky ridge. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone 4 ft. base, 2 ft. high for Cor of secs. 19, 20, 29 + 30, marked on brass cap T 22 S S 19 in NW., R 23 E S 20 in NE., S 29 in SE. and S 30 in SW. quadrant; raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.

Chains	
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
	Land mountainous with a general NE. drain.
	Soil rocky; 4th rate on a subsoil of solid sandstone.
	Timber, a few scattering cedar and pinon.
	No undergrowth.
	Mountainous land 80.00 chs.
	S. 89° 57' E., on a random line bet. secs. 20 & 29.
40.00	Set temporary 1/4 sec. cor.
80.02	Intersect N. & S. line 7 lks. S. of the cor. of secs. 20, 21, 28 & 29.
	Thence I run
	West, on true line bet. secs. 20 & 29.
	Over mountainous land
	Ascend steep rocky E. face of ridge.
9.80	Top of ridge, 175 ft. above sec. cor, brass N. & S.
	Descend abruptly over boulders.
20.60	Wash in hollow, 200 ft. deep, drains S.
	Ascend abruptly 200 ft. to
31.00	Top of ridge, brass N. & S.
	Descend abruptly.
40.01	175 ft. below top.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 in. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 20 on N. half and S 29 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable

Chains	
	Continue to descend.
59.00	Base of descent and canyon wash, 50 lks. wide, 10 ft. deep, 260 ft. below ridge, course N. Thence over land facing N.
74.80	Wash, 20 lks. wide, 2 ft. deep, course N. 80° E. Enter huge boulders on S. side of ridge.
80.02	At base of boulders The cor. of secs. 19, 20, 29 & 30. Land mountainous with a general south drain and steep E. & W. slopes of ridges. Soil, rocky: with a hard clay & rock sub soil of volcanic formation 4th rate. No timber No undergrowth. Mountainous land 80.02 chs. April 27: Sky overcast at noon, observations for lat. impossible.
	West, on a random line bet. secs. 19 & 30
40.00	Set temporary 1/4 sec. cor.
65.96	Intersect W. bdy. of the tp. 11 lks. N. of the cor. of secs. 19, 24, 25 & 30 heretofore described Thence I run N. 89° 54' E., on true line bet. secs. 19 & 30 over mountainous land. Ascend 50 ft. to
8.00	Spur, projects NE. Descend 50 ft. to
21.15	Wash in hollow; drains N. Thence up steep rocky land over loose rocks.
25.96	Set an iron post, 3 ft. long, 1 in. in

Chains

dia., 26 ins. in a mound of stone 4 ft. base 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 19 on N. half and S 30 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
Pits impracticable
Note: on account of natural obstacles I am unable to set post in the ground.
31.35 Thence over land facing N.
46.30 South edge of hollow at head, drains N. 80° W.
Ascend abruptly
58.55 Top of high ridge, bears NE. & SW.
Descend abruptly 150 ft. to
64.00 Base of ridge, bears N. 80° E. & SW.
65.96 The cor. of secs. 19, 20, 29 & 30.
Land, mountainous.
Soil, rocky 4th rate, sub-soil a hard clay and rocky; 4th rate
No timber
No undergrowth.
Mountainous land, 65.96 chs
April 27, 1911

April 28: At 8h 58m a.m. l.m.t., I set off 38° 53' on the lat. arc; 13° 57' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 & 30
Thence I run
N. 0° 03' W., bet. secs. 19 & 20.
over mountainous land
Ascend south face of ridge over huge boulders.
1.50 Leave boulders, bear E. & W.
9.00 Ridge, 100 ft. above sec. cor., bears E. & SW.

Subdivision of T. 22 S., R. 23 E.

Chains.	
	Descend.
24.25	Wash in canyon, 20 lks. wide, 125 ft. below ridge, course NE. Ascend 135 ft. to
29.50	Point of spur, projects E. Descend abruptly 140 ft. to
36.00	Monument wash in canyon, 50 lks. wide, 5 ft. deep, 140 ft. below spur, course NE. Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 19 on W. and S 20 on E. half dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
54.00	Ridge, 125 ft. high, bears E. & W. descend
77.30	Wash, 10 lks. wide, 1 ft. deep, course N. 80° E. Gradually ascend
80.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for cor. of secs. 17, 18, 19 & 20 marked on brass cap T 22 S S 18 in NW., R 23 E S 17 in NE., S 20 in SE. and S 19 in SW., quadrant, dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	Land, mountainous, draining NE.
	Soil, rocky 4th rate, with a hard clay and rock sub soil.
	No timber.
	No undergrowth.
	Mountainous land 80.00 chs.

Subdivision of T. 22 S., R. 23 E.

Chains	
	East, on random line bet. secs. 17 and 20
40.00	Set temporary 1/4 sec. cor.
80.12	Intersect N. & S. line 12 lks. N. of the cor. of secs. 16, 17, 20 and 21. Thence I run N. 89° 55' W., on true line bet. secs. 17 & 20 Gradually ascend over gently rolling land.
15.00	Monument wash, 50 lks. wide, 10 ft. deep, course NE. Enter high greasewood bears, NE. & SW.
16.05	Same wash, course SE.
23.00	Same wash, course N. 80° E. Leave greasewood.
40.06	Set an iron post, 13 ft. long, 4 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on N. half and S 20 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
70.00	Wash, 10 lks. wide, 1 ft. deep, course N. 80° E.
80.12	The cor. of secs. 17, 18, 19 & 20 Land rolling draining E. Soil, light clay with a hard alkali clay sub-soil; 3rd rate. No timber Undergrowth, greasewood on 8 chs.
	S. 89° 54' W., on a random line bet. secs. 18 & 19.
40.00	Set temporary 1/4 sec. cor.
65.89	Intersect W. bdy. of the tp. 4 lks. S.

Chains	
	of the cor. of secs. 13, 18, 19 & 24 heretofore described.
	Thence I run
	N. 89° 56' E., on true line bet. secs. 18 & 19.
	Gradually ascend over hilly land, through short undergrowth of shadscale.
8.50	Wash, 8 lks. wide, 3 ft. deep, course S.
25.89	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 18 on N. half and S 19 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high N. of cor.
32.00	Wash, 10 lks. wide, 4 ft. deep, course S.
65.89	The cor. of secs. 17, 18, 19 & 20.
	Land hilly.
	Soil, clay with a gravel & hard clay sub soil; 3rd lat.
	No timber
	Undergrowth short shadscale.
	April 28: At this sec. cor. I set off 13° 59' N. on the decl. arc; and at 11h 58m a. m. l. m. t., observe the sun on the meridian; the resulting lat. is 38° 54'
	N. 0° 03' W., bet. secs. 17 & 18.
	Over hilly land facing S., through short undergrowth of greasewood.
	Ascend 125 ft. to
19.50	Ridge, bears N. 80° W., and E.
	Thence gradually descend over land sloping N.

Subdivision of T. 22 S., R. 23 E.

Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 18 on W. and S 17 on E. hay, dig pits 18 x 18 x 12 ins. N. and S. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base 1 1/2 ft. high W. of cor.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 7, 8, 17 & 18, marked on brass cap T 22 S S 7 in NW., R 23 E S 8 in NE., S 17 in SE. and S 18 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land, hilly. Soil, gravelly and clay, with a hard clay sub-soil; 3rd rate. No timber Undergrowth short shadscale.
	S. 89° 55' E., on a random line bet. secs. 8 & 17.
40.00	Set temporary 1/4 sec. cor.
80.10	Intersect N. & S. line at the true cor. point of secs. 8, 9, 16 & 17. Thence I run N. 89° 55' W., on true line bet. secs. 8 & 17. In channel of Sagers wash.
4.30	Leave wash to the NW. Thence over hilly land facing N.
18.95	Sagers wash, 80 lks. wide, 30 ft. deep, course N.

Subdivision of T. 22 S., R. 23 E.

Chains	
	Enter greasewood undergrowth
23.50	Same wash, 1 ch. wide, 10 ft. deep, course S.
	Leave greasewood undergrowth
40.05	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 8 on N. half and S 17 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
56.10	Wash, 15 lks. wide, 4 ft. deep, course N. 80° E.
80.10	The cor. of secs. 7, 8, 17 & 18.
	Land hilly draining N.
	Soil, clay & gravelly with a hard clay sub soil; 3rd rate
	No timber.
	Undergrowth, some greasewood.
	April 28, 1911

April 29: At 7h. 57m. a.m. l.m.t., I set off 38° 55' on the lat. arc., 14° 16' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 7, 8, 17 & 18.

Thence I run

S. 89° 56' W., on random line bet. secs. 7 & 18.

40.00	Set temporary 1/4 sec. cor.
65.89	Intersect W. bdy. of the tp. at the cor. of secs. 7, 12, 13 & 18 heretofore described

Thence I run

N 89° 56' E, on true line bet. secs. 7 and 18.

Gradually ascend over gently rolling land, through short

Chains	
	undergrowth of shadscale.
15.30	Wash, 10 lks. wide, 2 ft. deep, course NE.
23.50	Wash, 10 NE. " 5 " " "
25.89	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 7 on N. half and S 18 on S. half, dig pits 18 x 18 x 12 ins. E & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
43.04	Wash, 10 lks. wide, 2 ft. deep, course NE.
	Ascend.
57.80	Ridge, 40 ft. high, bears NE & SW.
	Gradually descend.
65.89	The cor. of secs. 7, 8, 17 & 18.
	Land rolling draining N.
	Soil, gravelly and clay; 3rd rate.
	Sub-soil, hard clay.
	Undergrowth, short shadscale.
	N. 0° 03' W., bet. secs. 7 & 8.
	Gradually ascend over rolling land, through short undergrowth of shadscale.
5.00	Low ridge, bears NE. & SW.
	Descend 50 ft. to
22.90	Wash, 20 lks. wide, 15 ft. deep, course NE.
	Ascend 75 ft. to
38.00	Spur, projects E.
	Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 7 on W. half and S 8 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.

Subdivision of T. 22 S., R. 23 E.

Chains	
44.50	Wash, 5 lks. wide, 5 ft. deep, course E.
	Ascend 35 ft. to
49.00	Spur, projects E
	Descend abruptly
56.50	Sagers wash, 80 lks. wide, 10 ft. deep, course SE.
	Enter greasewood undergrowth.
66.75	Leave greasewood undergrowth, brass NW. and SE.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 14 ins. in the ground for cor. of secs. 5, 6, 7 & 8 marked on brass cap
	T 22 S S 6 in NW.,
	R 23 E S 5 in NE.,
	S 8 in SE. and
	S 7 in SW. quadrant,
	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 hilly, draining E.
	Soil, clay, 3rd rate. sub-soil a hard clay and gravel.
	Undergrowth short shadscale and some greasewood.
	No timber
	S. 89° 55' E., on a random line bet. secs. 5 & 8
40.00	Set temporary 1/4 sec. cor.
80.02	Intersect N & S. line 3 lks. N. of the cor. of secs. 4, 5, 8 & 9.
	Thence I run
	N. 89° 54' W., on true line bet. secs. 5 & 8.
	over rolling hilly land facing south, through short undergrowth

Chains	
	of shadscale.
40.01	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 5 on N. half and S 8 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
80.02	The cor. of secs. 5, 6, 7 & 8. Land hilly. Soil, gravelly; 3rd rate on a hard clay sub-soil. Undergrowth short shadscale No timber April 29: At this sec. cor., I set off 14° 18' N. on the decl. arc; and at 11h 57m a.m. l.m.t., observe the sun on the meridian, the resulting lat. is 38° 56'
	S. 89° 56' W., on a random line bet. secs. 6 & 7.
40.00	Set temporary 1/4 sec. cor.
65.87	Intersect W. bdy of the tp 3 lks. S. of the cor. of secs. 1, 6, 7 & 12 heretofore described
	Thence I run N. 89° 58' E., on true line bet. secs. 6 & 7. Over hilly land, through short undergrowth of shadscale. Ascend.
6.40	Top of knoll. Descend 30 ft. to
7.90	Base of knoll, bears N. & SW.
11.90	Enter greasewood undergrowth, bears NE & SW.
21.90	Leave same, bears NE & SW.
22.20	Wash, 15 lks. wide, 5 ft. deep, course NE.

Chains.	
	Thence over hilly land facing N.
25.87	Set an iron post, 3 ft. long, 1 in in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 6 on N. half and S 7 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
35.80	Spur, 75 ft. high, projects N.
	Descend abruptly 75 ft. to
42.90	Base of spur and enter greasewood undergrowth, bears NW & SE.
52.30	Sagers wash, 50 lks. wide, 10 ft. deep course SE.
	Leave greasewood undergrowth, bears NW & SE.
	Note: Old oil tanks, bear N. 2 chs.
63.20	Wash, 10 lks. wide, 2 ft. deep, course S.
65.87	The cor. of secs. 5, 6, 7 & 8.
	Land hilly and rolling.
	Soil, clay and gravelly; 2nd rate
	Undergrowth, shadscale and greasewood
	No timber
	N. 0° 03' W., on true line bet. secs. 5 & 6.
	Gradually ascend over gently rolling land.
16.00	Wagon road, bears NE & SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 Sec. cor., marked on brass cap 1/4 S 6 on W. half and S 5 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high

Subdivision of T. 22 S., R. 23 E.

Chains

W. of cor.

47.00 Enter gently rolling bench, brars NW + SE.

86.80 Intersect N. bdy. of the tp, 11.61 ch. S. 59° 45' W of the cor. of secs. 31 + 32 heretofore described.

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

CCT 21S R 23E S 31 S 32 on N. half
S 5 in SE. and
S 6 in SW. quadrant,

dig pits, 24 x 18 x 12 ins. crossurse on each line, E. + W. 3 ft., and S. of post 7 ft. dist.; raise a mound of earth 4 ft. base, 2 ft. high S. of cor.

Land gently rolling

S 42 chs. gently rolling land with gentle south slope. soil, clay with a hard clay and gravel sub soil: 3rd rate.

N 44.80 chs gently rolling bench. Soil, gravelly surface with a deep sand sub soil, 1st rate

No timber.

Undergrowth, short shadscale

April 29, 1911

General Description.

This township contains two varieties of land and the soil ranges from rocky to a rich sandy loam. The soil of the mountainous part which comprises the south half of the tp is all rocky and can be classed as 4th rate. This part has a natural drain to the north and east. The soil of the remaining part, which is a rolling desert, is chiefly an alkali clay and gravelly with a hard dry clay sub soil, except a bench in secs. 5 & 6 which contains a good deep sandy soil. The natural drain of this part is to the south & east.

A scrub growth of cedar & juniper exists upon the mountainous part. A short undergrowth of shadscale is found on the desert land while along Sagers, Monument & Nash washes which form the natural drain of the tp a high growth of greasewood is found.

In sec. 6, is the remains of an old oil well and pumping plant which has at one time been in operation and produced some oil. There are slight oil indications in the formation of the soil in secs, 3, 4 & 5 but not sufficient enough to be layed aside as oil lands.

A couple good springs of water are found in sec. 31. The remaining water in the tp is alkali and unfit for any purpose.

There are no settlers in this tp.
There are no indications for mineral in this tp.

Howard W. Miller
U. S. Transitman

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller Transitman, United States ~~Deputy Surveyor,~~ to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the subdivision of T. 22 S, R. 23 E. of the S.L.B.& M., Utah, showing the respective capacities in which they acted:

..., Chainman.
Earl Harvey, Chainman.
Roscoe Hallett, Moundman.
..., Moundman.
Jack Thomas, Axman.
Jack Thomas, ~~Axman.~~ Flagman.
..., ~~Flagman.~~

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W Miller, United States ~~Deputy Surveyor~~ Transitman, in surveying all those parts or portions of the subdivision of T. 22 S, R. 23 E ... of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

..., Chainman.
Earl Harvey, Chainman.
..., Moundman.
Roscoe Hallett, Moundman.
..., Axman.
Jack Thomas, Axman.
Jack Thomas, Flagman.

Subscribed and sworn to before me this 30 day of April, 1911

SEAL

Howard W Miller
U.S. Transitman

6—161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oath of transitman see book "Z1" T. 24 S., R. 26 E.

..... of the .....
..... meridian, in the ..... of ....., which are repres
foregoing field notes as having been surveyed by me, and under my direction; and I do furth
swear that all the corners of said survey have been established and perpetuated in strict acco
the Manual of Surveying Instructions, and the special written instructions of the United Stat
General for ..... and in the specific manner described in the field not
the foregoing are the original field notes of such survey.

.....
United States Deput

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

SEAL

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25

The foregoing field notes of the survey of the subdivisional lines of T
No.22 South, Range No.23 East of the Salt Lake Base and Meridi
Utah.

executed by Howard S. Miller
under his special instructions dated August 6, 1910 ..... h
critically examined, and the necessary corrections and explanations made, the said field not
surveys therein described, are hereby approved.

United States Survey

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 th

United States Survey

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Page

Book W

Filed Apl 3/1912

4—679.

BOOK A-379

FIELD NOTES

OF THE SURVEY OF THE

N.B.B.

South boundary,
West boundary, and
Resurvey of the north boundary of
T. 22 S., R. 22 E.

of the Salt Lake Base and Meridian,
Utah

AS SURVEYED BY

Howard W. Miller, Transitman, United States ~~Deputy Surveyor~~,

Under his ~~Contract~~ assignment group No. 4, dated August 6, 1910

Survey commenced April 30, 1911

Survey completed May 3, 1911

6—161

NAMES AND DUTIES OF ASSISTANTS.

Earl Harvey, chainman
Roscoe Hallett, moundman
Jack Thomas, axman
Jack Thomas, flagman

See "Z1" T.24 S., R.26 E. for period of service and certificate Carl Ray as chainman.

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BOOK A-379

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Township 22 South, Range 22 East

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

~~We,~~ I Earl Harvey ~~and~~

do solemnly swear that ~~we~~ I will well and faithfully execute the duties of chainman; that ~~we~~ I will leve chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; ~~we~~ I will report the true distances to all notable objects, and the true lengths of all lines that ~~we~~ I ass measuring, to the best of ~~our~~ my skill and ability, and in accordance with instructions given ~~us~~ me, in the ~~sur~~ resurvey of the N., Survey of the S. & W. bdrs. of T. 22 S., of the S.L.B.& M., Utah.

..., Chain

Earl Harvey, Chain

Subscribed and sworn to before me this 30 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

~~We,~~ I Roscoe Hallett ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establish of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the surv S., W., and resurvey of the N. bdy. of T. 22 S., R. 22 E of the S.L.B.& M., Utah.

Roscoe Hallett, Mound

..., Mound

Subscribed and sworn to before me this 30 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

~~We,~~ I Jack Thomas ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of axman in the establishment of co and other duties, according to instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the surv the S., W. and resurvey of the N. bdy. of T. 22 S., R. 2 of the S.L.B.& M., Utah.

..., Axm

Jack Thomas, Axm

Subscribed and sworn to before me this 30 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

I, Jack Thomas, do solemnly swear that I will well and t perform the duties of flagman according to instructions given me, to the best of my skill and ability, i survey of the S., W., and resurvey of the N. bdy. of T. 22 S., R of the S.L.B.& M., Utah.

Jack Thomas, Flagm

Subscribed and sworn to before me this 30 day of April, 19 11

SEAL

Howard W. Miller
U. S. Transitman

6—151

Resurvey of the north boundary of T. 22 S., R. 22

Chains.

Survey commenced April 30, 1911 and executed with a W. & L. E. Gurley solar compass No. 1043.
For description and test of instrument see Book "A" of this survey.
I examine the adjustments of the instrument and correct the level and collimation errors; then, to test the solar apparatus by comparing its indications resulting from solar observations made during a.m. & p.m. hours with a meridian determined by observations made on Polaris, I proceed as follows.
At the cor. of Ts. 21 & 22 S., Rs. 22 & 23 E., heretofore described, in lat. 38° 56' 29" N., longitude 109° 27' 28" W., I set off 38° 56' on the lat. arc; 14° 41' N. on the decl. arc, and at 4h 27m p.m. l.m.t., determine with the solar a meridian and mark a point in the line thus determined by driving a nail in a wooden hub, set firmly in the ground 5 chs. N. of the cor.
At 8h 00m p.m. l.m.t., I observe Polaris in accordance with the Manual of Instructions and mark a point in the line thereof by driving a nail in a wooden hub set firmly in the ground, 5 chs. N. of the cor.

Astron. l.m.t. of obsn. April 30		8h 00m
Equiv. to time of April 29		32h 00m
U.C. Polaris May 1	22h 49.4m	
Reduction to April 29	7.9	
	22h 57m 3	22 573
Hour angle of Polaris		9 027
Azimuth of Polaris at obsn.		1° 01' W.

April 30, 1911.

Chains

May 1: At 7h. 27m. a.m. l.m.t., I lay off the azimuth of Polaris 1° 01' to the east and find that my Polaris meridian practically agrees with the solar meridian of April 30.
At 7h. 42m. a.m. l.m.t., I set off 38° 56' on the lat. arc; 14° 53' N. on the decl. arc and determine a meridian with the solar, which meridian falls about 03" east of the Polaris meridian.
My solar meridians practically agree with the Polaris meridian, I therefore conclude that the adjustments of the instrument are satisfactory.
The magnetic bearing of the true mer. at 8h. a.m. is N. 15° 30" W., which gives the magnetic decl. 15° 30' E.

From the tp. cor. already described I run west, retracing along the north bdy. of the tp., making careful search for old 1/4 sec. and sec. cors. at intervals of 40.00 chs. and at 477.60 chs. I am unable to find any trace of the old cor. of Tps. 21 & 22 S., Rs. 21 & 22 E. As no subdivisions are dependent upon the old tp. cor., at this point I establish cor. for T.s. 21 & 22 S., Rs. 21 & 22 E.
Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of Ts. 21 & 22 S. Rs. 21 & 22 E., marked on brass cap

T 21 S on N. half
T 22 S on S. half,
R 21 E S 36 in NW.
R 22 E S 31 in NE.
R 22 E S 6 in SE. and

Resurvey of the north boundary of T. 22 S., R. 22 E.

Chains	
	R 21 E S 1 in SW. quadrant, dig pits, 24 x 24 x 12 ins., on each line, E., N., and W. 4 ft., and S. of post, 8 ft. dist; raise a mound of earth, 5½ ft. base, 2½ ft. high S. of cor.
	Thence 9 min East, resurveying, bet. secs. 6 & 31. over gently rolling land, through short undergrowth of shadscale
37.60	Allowing for convergency. Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 31 on N. half and S 6 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
77.60	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 5, 6, 31 & 32, marked on brass cap, T. 21 S., R. 22 E on N. half. T 22 S ... on S. half, S 31 in NW., S 32 in NE., S 5 in SE. and S 6 in SW. quadrant., 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 gently rolling with gradual SE. slope and drain. Soil, clay; 3rd rate with a hard dry clay sub soil; 3rd rate. Undergrowth, short shadscale. No timber.
	East, resurveying, bet. secs. 5 & 32.

chains

Gradually ascend over rolling clay hills, through short undergrowth of shadscale.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 cor. marked on brass cap 1/4 S 3 on N. half and S 5 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist, raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high N. of cor.

62.25 Wash, 7 lks. wide, 5 ft. deep, course SE.

Ascend 75 ft. to

65.00 Ridge, bears N. 80° W. and SE.

Descend gradually

71.00 Enter greasewood undergrowth, bears NW. & SE.

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, marked on brass cap, T 21 S R 22 E on N. half,
T 22 S on S. half,
S 32 in NW.,
S 33 in NE.,
S 4 in SE., and
S 5 in SW., quadrant,
dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor.

Land rolling, draining S.

Soil, clay; 3rd rate, with a hard dry clay sub soil

Undergrowth, short shadscale.

No timber

East, resurveying bet. secs. 4 & 33.

Gradually descend over rolling land through undergrowth of greasewood.

Resurvey of the north boundary of T. 22 S., R. 22 E.

Chains	
21.30	Wash, 15 lks. wide, 3 ft. deep, course NE.
33.00	Rogers Wash, 75 lks. wide, 7 ft. deep, course S.
40.00	Point for 1/4 sec. cor. in center of same wash at bend from SW. to SE.
42.30	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap T. 21 S R 22 E S 33 on N. half, T. 22 S R 22 E S 4 on S. half, with W C 1/4 to the W., dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N of cor.
46.00	Wash, 7 lks wide, 3 ft. deep, course S.
58.75	Wash, 75 lks. wide, 7 ft. deep, course S. ascend
68.00	Low ridge, 50 ft. high, bears N. & S. Gradually descend.
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 & 34, marked on brass cap, T. 21 S., R 22 E., on N. half, T 22 S on S. half, S 33 in NW., S 34 in NE., S 3 in SE. and S 4 in SW. quadrant., dig pits, 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land rolling with a general south drain. Soil, light alkali clay; 3rd rate, with a hard dry clay sub soil; 3rd rate

chains.

Undergrowth, greasewood.
No timber
May 1: At this sec. cor. I set off 14° 55' N. on the decl. arc, and at 11h 59m a.m. l.m.t., observe the sun on the meridian; the resulting lat is 35° 56'

East, resurveying bet. secs. 3 & 34: over rolling land through short undergrowth of shadscale

14.00 Wash, 5 lks. wide, 5 ft. deep, course S.
Ascend 30 ft. to
18.00 Enter level bench, bears N. & S.
31.25 Leave bench, bears N. & S.
Descend 50 ft. to
40.00 Point for 1/4 sec. cor. falls in wash, 5 lks. wide, 5 ft. deep, course S.
40.25 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap T. 21 S R 22 E S 34 on N. half, T 22 S R 22 E S 3 on S. half with W C 1/4 to the west., dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
60.85 Wash, 10 lks. wide, 5 ft. deep, course S.
75.10 Wash, 15 lks. wide, 8 ft. deep, course SE.
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 marked on brass cap T. 21 S R 22 E on N. half, T 22 S on S. half,
S 34 in NW.,
S 35 in NE.

Resurvey of the north boundary of T. 22 S., R. 22 E.

Chains	
	S 2 in SE., and S 3 in SW. quadrant, 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 rolling with a general south drain. Soil, gravelly with a light alkali clay; 3rd rate. Sub soil, a hard clay; 3rd rate Undergrowth, short shadscale. No timber.
	East, resurveying bet. secs. 2 & 35. Over rolling land draining S., through short undergrowth of shadscale.
13.30	Wash, 5 lks. wide, 5 ft. deep, course S.
25.65	Wash, 15 lks. wide, 5 ft. deep, course S.
28.35	Wash, 6 lks wide, 3 ft. deep, course SE.
38.70	Wash, 5 lks. wide, 3 ft. deep, course S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 35 on N. half and S 2 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.,
51.65	Wash, 10 lks. wide, 3 ft. deep, course S.
59.40	Wash, 10 lks. wide, 5 ft. deep, course SE.
67.15	Wash, 5 lks. wide, 3 ft. deep,

Chains	
	course S.
75.75	Wash, 5 lks. wide, 3 ft. deep, course 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, marked on brass cap, T 21 S R 22 E on N. half, T 22 S on S. half, S 35 in NW., S 36 in NE., S 1 in SE. and S 2 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec. 5½ ft. dist., raise a mound of earth, 1 ft. base, 2 ft. high W. of cor. Land, rolling with a natural south drain. Soil, light alkali clay; 3rd rate. Sub soil, a hard clay & shale; 3rd rate. Undergrowth, short shadscale No timber.
	East, resurveying bet. secs. 1 & 36. Over rolling land draining S., through short undergrowth of shadscale.
7.25	Wash, 10 lks. wide, 3 ft. deep, course S.
25.85	Wash, 5 lks. wide, 3 ft. deep, course S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 36 on N. half and S 1 on S. half, dig pits, 18 x 18 x 12 ins. E & W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N.

Resurvey of the north boundary of T. 22 S., R. 22 E.

Chains.	
	of cor.
64.25	Wash, 10 lks. wide, 10 ft. deep, course SE.
68.50	Wash, 10 lks. wide, 5 ft. deep, course S.
69.90	Wash, 5 lks. wide, 3 ft. deep, course S.
	Enter greasewood undergrowth bears N & S.
75.40	Wash, 30 lks. wide, 10 ft. deep course S.
	Leave greasewood undergrowth, bears N. & S.
80.00	The cor. of Ts. 21 & 22 S., Rs. 22 & 23 E., heretofore described.
	Land rolling with a natural drain to the south.
	Soil, light alkali clay: 2nd rate.
	Sub-soil, a hard dry clay.
	Underg rowth, short shadscale and greasewood. greasewood undergrowth on 5.50 chs.
	No timber
	May 1, 1911

South boundary of T. 22 S., R. 22 E.

chains	
	May 2: At 7h. 57m. a.m. l.m.t., I set off 38° 51' on the lat. arc; 15° 11' N. on the decl. arc; and determine a meridian with the solar at the cor. of Ts. 22 + 23 S., Rs. 22 + 23 E., heretofore described
	Thence I run
	West, bet. secs. 1 & 36.
	Over mount amous land draining NE., through scattering forest of scrub cedar and pinon and undergrowth of shadscale.
	Descend 30 ft. to
3.10	Wash in hollow, 20 lks. wide, 7 ft. deep, course NE.
	Ascend 75 ft. to
9.60	Ridge, bears NE. and SW.
	Thence over land facing nearly north.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 36 on N. half and S 1 on S. half; dig pits 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth 3½ ft base, 1½ ft. high N. of cor.
42.35	Wash in hollow, 15 lks. wide, 7 ft. deep, course N. 20° E.
	Ascend 100 ft. to
53.50	Ridge, bears NE. & SW.
	Descend 125 ft to
77.00	Wash in hollow, 50 lks. wide, course N. 60° E.
	Ascend over rocky land facing S.
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, marked on brass cap

South boundary of T. 22 S., R. 22 E.

chains	
	T 22 S R 22 E, on N. half, T 23 S " " on S. half, S 35 in NW., S 36 in NE., S 1 in SE., and S 2 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Land mount anous, draining NE. Soil, rocky and sandy; 4th rate. Sub-soil, rocky. Timber, scattering scrub cedar and pinon. Undergrowth, short shadscale. Land mount anous or heavily timbered 80.00 chs.
	West, bet. secs. 2 and 35. Over mount anous land through scattering forest of cedar and pinon and undergrowth of shadscale. Ascend across S. point of sandstone ledges.
4.50	Wash, 15 lks. wide, 3 ft. deep, course S. Ascend abruptly
7.25	Spur, 50 ft. high, projects S. Descend 25 ft. to
11.25	Wash, 10 lks. wide, course SE Thence gradually ascend over series of small ledges.
40.00	200 ft. above sec. cor. on top of ridge, brass NE. and SW. Set an iron post, 3 ft. long, 1 in in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 35 on N. half and S 2 on S. half, dig pits 18 x 18 x 12 ins. E. & W.

Chains

of post 3 ft. dist.; raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
Thence over sandy land facing north.

78.00 Wash, 15 lks. wide, 3 ft. deep, course NE.

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 marked on brass cap, T 22 S R 22 E on N. half,
T 23 S on south half,
S 34 in NW.,
S 35 in NE.,
S 2 in SE. and
S 3 in SW. quadrant,
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 and rolling
E 40 chs. mountainous land facing SE. soil rocky with a rocky sub soil, 4th rate. W 40 chs. gentle north slope soil, sandy on hard baked sand sub soil; 4th rate.
Timber, scattering scrub cedar and pinon.
Undergrowth, short shadscale.
Land mountainous or heavily timbered 80.00 chs

West, bet. secs. 3 and 34
over hilly land facing N., through scattering forest of cedar and pinon and undergrowth of shadscale.

2.50 Low rim of rocks, bears NW & SE.
Thence over land facing S.

35.00 Rocky spur, 25 ft. high projects S.

40.00 Set an iron post, 3 ft. long, 1 in.

Chains	
	in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 34 on N. half and S 3 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post, 3 ft. dist., raise a mound of earth 3½ ft. ft. base, 1½ ft. high N. of cor.
42.95	Wash, 10 lks. wide, 5 ft. deep, course S.
72.10	Wash, 8 lks. wide, 3 ft. deep, course S.
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 & 34, marked on brass cap T. 22 S R 22 E on N. half, T 23 S on S. half, S 33 in NW., S 34 in NE., S 3 in SE. and S 4 in SW. quadrant., 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, rolling. Soil, sandy and rocky 2nd rate, Sub. soil - sandy. Timber, some scattering cedar and pinon. Undergrowth short shadscale. May 2: At this sec. cor., I set off 15° 14' N. on the decl. arc; and at 11h 57m a.m. l.m.t., observe the sun on the meridian., the resulting lat is 38° 51'
	West, bet. secs. 4 & 33. Over rolling land, through short undergrowth of shadscale.
0.40	Wash, 15 lks. wide, 3 ft. deep, course SW.

Chains	
	Gradually ascend.
15.50	Top of low rock rim, brass NE. and SW.
	Enter scattering cedar and pinon.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 33 on N. and S 4 on S. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
	Note, on account of natural obstacles I am unable to set post in the ground.
54.00	Begin gradual descent over shifting sand sloping W.
80.00	Point for cor. of secs. 4, 5, 32 & 33 falls on steep slope of solid sandstone bed rock where cor. cannot be set.
	Land rolling
	Soil, sandy & rocky; 4th rate.
	Sub-soil, sandy with sandstone bed rock, close to surface.
	Underg rowth, short, shadscale.
	Timber, a few scattering cedar and pinon.
	West, bet. secs. 5 & 32.
	Descend over rolling land sloping SW., through short undergrowth of shadscale.
0.20	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for witness cor. to secs. 4, 5, 32 and 33, marked on brass cap : T 22 S R 22 E S 32 S 33 on N. half, T 23 S R 22 E S 4 S 5 on S. half with W Co. near the center, dig

South boundary of T. 22 S., R. 22 E.

Chains	
	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.
29.50	Wash, 15 lks. wide, 2 ft. deep, course SW.
32.70	Wash, 40 lks. wide, 2 ft. deep, course S.
34.30	Same wash, course NE.
38.60	Same wash, course S. 20° E. Gradually ascend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 32 on N. half and S 5 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
64.00	Top of ascent and low ridge, bears N. & S. Thence over land sloping nearly N.
80.00	Set an iron post 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 5, 6, 31 & 32 marked on brass cap, T 22 S R 22 E on N. half, T 23 S on S. half, S 31 in NW., S 32 in NE., S 5 in SE. and S 6 in SW. quadrant, 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, hilly. Soil, sandy & rocky; 4th rate on solid sandstone bedrock sub soil, 2 to 4 ft. from surface. Undergrowth, short shadscale.

South boundary of T. 22 S., R. 22 E.

Chains	
	No timber
	West, bet. secs. 6 & 31.
	Gradually ascend over sandy land facing N., through short undergrowth of shadscale.
21.00	Top of ascent and low ridge, bears N. & S.
	Gradually descend over land facing nearly west.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 31 on N. half and S 6 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high W. of cor
72.15	Wash 40 lks. wide, 3 ft. deep, 100 ft. below ridge course S.
	Ascend 50 ft. to
78.25	Set temporary cor. of Ts. 22 & 23 S., Rs. 21 & 22 E.
	Land, rolling.
	Soil, sandy with a deep sandy sub soil; 2nd rate.
	Undergrowth, short shadscale.
	No timber.
	Permanent corner afterward set at 78.30 chs. in survey of W. Bdy. of this Tp. May 2. 1911.

West boundary of T. xx S., R. xx E.

Chains	
	May 3: At 7h. 57m. a.m. l.m.t., I set off 38° 51' on the lat. arc; 15° 29' N. on the decl. arc; and determine a meridian with the solar at the temporary cor. of T.s. 22 & 23 S., R.s. 21 & 22 E.
	Thence I run North, on a random line along the W. bdy. of the tp., setting temporary 1/4 sec. and sec. cors. at intervals of 40 chs. and at 48.6.50 chs., intersect E. & W. line 5 lks. E. of the cor. of T.s. 21 & 22 S., R.s. 21 & 22 E. heretofore described.
	From the tp cor., I run South, on true line bet. secs. 1 & 6. Over nearly level land draining east, through undergrowth of greasewood.
23.25	Wash, 15 lks. wide, 7 ft. deep, course N. 70° E.
39.75	Wash, 10 lks. wide, 4 ft. deep, course N. 70° E.
46.50	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 1 on W. half and S 6 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor. Leave greasewood undergrowth, bras NE. & SW.
52.50	Wash, 10 lks. wide, 4 ft. deep, course NE 4 chs. Thence E.
	Thence over rolling land.
82.75	Wash, 15 lks. wide, 4 ft. deep, course NE.
86.50	Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground for cor. of secs. 1, 6, 7 & 12 marked on brass cap.

Chains

T 22 S on N. half,
R 21 E S 1 in NW.,
R 22 E S 6 in NE.,
S 7 in SE. and
S 12 in SW. quadrant,
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, rolling with a general
easterly drain.
Soil, alkali clay; 3rd rate, with a
hard dry clay sub soil.
No timber
Undergrowth, greasewood, on N.
46.50 chs.

South, bet. secs. 7 & 12.
Gradually ascend over rolling
land sloping N., through short
undergrowth of short shadscale.
40.00 Set an iron post, 3 ft. long, 1 in. in
dia., 26 ins. in the ground for 1/4
sec. cor., marked on brass cap
1/4 S 12 on W. half and S 7 on E.
half, dig pits 18 x 18 x 12 ins. N. & S.
of post 3 ft. dist., raise a mound
of earth 3½ ft. base, 1½ ft. high
W. of cor.
80.00 Set an iron post, 3 ft. long, 3 ins.
in dia., 24 ins. in the ground
for cor. of secs. 7, 12, 13 & 18, marked
on brass cap.
T 22 S on N. half,
R 21 E S 12 in NW.,
R 22 E S 7 in NE.,
S 18 in SE. and
S 13 in SW. quadrant,
dig pits 18 x 18 x 12 ins. in each sec.,

West boundary of T. 22 S., R. 22 E.

Chains.	
	5½ ft. dist., raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	Land rolling with a general NE. drain.
	Soil, gravelly and a light alkali clay; 3rd rate.
	Sub soil, hard clay.
	No timber.
	Undergrowth, short shadscale.
	South brk. secs. 13 & 18.
	Gradually ascend over rolling hilly land sloping north, through short undergrowth of shadscale.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 13 on W. half and S 18 on E. half, dig pits, 18 x 18 x 12 ins., N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
43.00	Top of low ridge or bluff bears N. 80° E. and S. 80° W.
	Descend
79.00	Enter scattering greasewood, undergrowth, bears NE. and SW.
80.00	100 ft. below ridge.
	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, marked on brass cap T 22 S. on N. half, R 21 E S 13 in NW., R 22 E S 18 in NE., S 19 in SE. and S 24 in SW. quadrant,

Chains	
	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, hilly Soil, light alkali clay and gravelly 3rd rate. Sub soil, a hard clay. No timber. Undergrowth, short shadscale and some greasewood. May 3: At this sec. cor., I set off 15° 31' N. on the decl. arc., and at 11h. 57m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 54'
	South, bet. secs. 19 & 24. Over rolling land draining E. through scattering undergrowth of greasewood.
20.00	Wash, 10 lks. wide, 4 ft. deep, course N. 70° E. Leave greasewood undergrowth and rolling land, bears N. 70° E and S. 70° E. Enter hilly land and short undergrowth of shadscale, Ascend.
40.00	Spur, 75 ft. above wash, projects NE. Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 24 on W. hat and S 19 on E. hat, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor. Descend 75 ft. to

West boundary of T. 22 S., R. 22 E.

chains	
49.25	Wash, 15 lks. wide, 2 ft. deep, course N. 70° E.
53.25	Same wash, course NW.
54.50	Same wash, course NE. Ascend 75 ft. to
60.50	Rocky spur, projects W. Descend 50 ft. to
67.50	Wash, 10 lks. wide, 2 ft. deep, course N. 30° W. Ascend
80.00	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, marked on brass cap T 22 S on N. half R 21 E S 24 in NW., R 22 E S 19 in NE., S 30 in SE. and S 25 in SW. quadrant, 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 rolling and hilly. Soil, clay, rocky and gravelly; 3rd and 4th rates. Subsoil, hard clay and rocky. Undergrowth, greasewood on N. 20 chs. and short shadscale on S. 60 chs. No timber
	South, bet. secs. 25 and 30. Gradually ascend over mountainous land facing N., through short undergrowth of shadscale.
35.00	Top of ascent and ridge, 100 ft. above sec. cor., bears E. & W.

Chains	
	Descend over rocky land facing SE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 25 on W. half and S 30 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable Note: on account of natural obstacles, I am unable to set the post in ground.
50.75	Ledge, 40 ft. high, bears N. 70° E and W. 4 chs., thence S.
55.00	Base of descent, 150 ft. below 1/4 sec. cor., bears N 70° E & S 5° W. Thence over land facing E.
70.50	Base of ridge bears, N. 5° W., and SE. Ascend abruptly.
80.00	150 ft. above base. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in the ground, for cor. of secs. 25, 30, 31 and 36 marked on brass cap T 22 S on N. half, R 21 E S 25 in NW., R 22 E S 30 in NE., S 31 in SE. and S 36 in SW. quadrant, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable Land, mountainous Soil, gravelly, rocky and some clay of volcanic formation; 4th rate. Sub-soil, rocky and clay.

Chains	
	Undergrowth, short chaparral. No timber. Mountainous land 80.00 chs.
	South, bet. secs. 31 & 36. Over rough mountainous land facing NE. Ascend 50 ft. to
1.50	High spur, projects E. Descend abruptly 175 ft. to
15.25	Wash in hollow, 40 lks. wide, course S. 70° W. Ascend 50 ft. to
18.50	Low ridge, bears E. & W. Thence over land facing nearly west.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 36 on W. half and S 31 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable
59.00	Point of rocky spur, projects W. Descend 50 ft. to
64.00	Wash, 60 lks. wide, 3 ft. deep, course S. 30° E. Thence over low sand hills facing E.
80.00	Intersect S. bdy. of the tp. 5 lks. west of the temporary cor. of Ts. 22 & 23 S., Rs. 21 & 22 E., heretofore described. Set an iron post, 3 ft. long, 3 ins. in dia., 24 ins. in a mound of earth and stone 4 ft. base, 2 ft. high for cor. of Ts. 22 & 23 S., Rs. 21 & 22 E., marked on brass

West boundary of T. 22 S., R. 22 E

Chains.

cap

T 22 S on N. half,
T 23 S on S. half,
R 21 E S 36 in NW.,
R 22 E S 31 in NE.,
S 6 R 22 E in SE. and
S 1 R 21 E in SW. quadrant,
raise a mound of stone, 2 ft. base, 1½ ft. high S. of cor.
Pits impracticable
Note: On account of natural obstacles I am unable to set post in the ground.
Land, mountainous.
Soil, gravelly, rocky and hard clay of volcanic formation; 4th rate.
Sub-soil, rocky and clay.
No timber
No Undergrowth.
Mountainous land 80.00 chs.
May 3, 1911

Boundaries of T. 22 S., R. 22 E.

Latitudes, departures and closing errors.

Lines Run	Courses	Distances	Latitudes N	Latitudes S	Departures E	Departures W
N Bdy	East	477.60			477.60	
E. Bdy.	South	486.75		486.77		
S Bdy.	West	478.30				478.30
W Bdy	North	486.50	486.50			
Convergency					.59	
			486.50	486.77	478.19	478.30
Errors.				486.50		478.19
				.27		.11

For general description see book. "X" of this survey.

Howard W. Miller
U. S. Transitman.

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FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller Transitman, United States ~~Deputy Surveyor,~~ to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the S., W., and resurvey of the N. bdy. of T. 22 S., R. 22 E. of the S.L.B.& M., Utah, showing the respective capacities in which they acted:

Chainman.
Earl Harvey, Chainman.
Roscoe Hallett, Moundman.
Moundman.
Axman.
Jack Thomas, Axman.
Jack Thomas, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller Transitman, United States ~~Deputy Surveyor,~~ in surveying all those parts or portions of the South boundry, West boundry, and resurvey of the north boundry of township 22 South, range 22 east of the Salt Lake Base & meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah

Chainman.
Earl Harvey, Chainman.
Moundman.
Roscoe Hallett, Moundman.
Axman.
Jack Thomas, Axman.
Jack Thomas, Flagman.

Subscribed and sworn to before me this 3 day of May, 1911

SEAL

Howard W. Miller
U. S. Transitman

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BOOK A-379

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oath of transitman see book "Y" T. 25 S., R. 26 E.

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

.....
United States Deputy

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

SEAL

.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25,

The foregoing field notes of the survey of the South and West, and resurve
the North Boundaries of Township No. 22 South, Range No. 22 Eas
the Salt Lake Base and Meridian, Utah,

executed by Howard W. Miller
under his ~~contract No.~~ special instructions A, dated August 6, 1910, ~~19~~ , ha
critically examined, and the necessary corrections and explanations made, the said field notes
surveys they describe, are hereby approved.

Thomas Hu
United States Surveyor

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

.....
United States Surveyor

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Page

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KFB

EB

FAS.

Filed Apr.3, 1912.

WSH.

4—679.

BOOK A-379

Book "X"

FIELD NOTES

H.J.G.

OF THE SURVEY OF THE

S U B D I V I S I O N

O F

T.22 S., R.22 E.

Of the Salt Lake Base & *Meridian,*

U t a h.

AS SURVEYED BY

Howard W.Miller, *United States* ~~Deputy-Surveyor,~~ Transitman.

Under his ~~*Contract*~~ Assignment Group *No.* 4, *dated* August 6, 1910, ~~100~~

Survey commenced May 3 1911, ~~100~~

Survey completed May 18 1911, ~~100~~

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Book A-379

NAMES AND DUTIES OF ASSISTANTS.

Earl Harvey,	Chainman.
Roscoe Hallett	Roundman.
Jack Thomas,	Flagman.

See "Z' " T.24 S., R.26 E. for period of service and certificate

Carl Ray as chainman.

BOOK A-379

INDEX DIAGRAM.

Township 22 South, Range 22 East.

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Meanders Page .....

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PRELIMINARY OATHS OF ASSISTANTS.

~~We,~~ I Earl Harvey ~~and~~

do solemnly swear that ~~we~~ I will well and faithfully execute the duties of chainman; that ~~we~~ I will lev
chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same
~~we~~ I will report the true distances to all notable objects, and the true lengths of all lines that ~~we~~ I as
measuring, to the best of ~~our~~ my skill and ability, and in accordance with instructions given ~~us~~ me, in the sur
the subdivision of T. 22 S., R. 22 E of the S.L.B.&
Utah.

, Chai

Earl Harvey, Chai

Subscribed and sworn to before me this 3
day of May, 1911

SEAL

Howard W Miller
U.S. Transit man

~~We,~~ I Roscoe Hallett ~~and~~

do solemnly swear that ~~we~~ I will well and truly perform the duties of moundman in the establis
of corners, according to the instructions given ~~us~~ me, to the best of ~~our~~ my skill and ability, in the sur
the subdivision of T 22 S R. 22 E of the S.L.B.&
Utah.

Roscoe Hallett, Mound

, Mound

Subscribed and sworn to before me this 3
day of May, 1911

SEAL

Howard W Miller
U.S. Transit man

We, _____ and _____

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

, Ax

, Ax

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

SEAL

I, Jack Thomas, do solemnly swear that I will well and
perform the duties of flagman according to instructions given me, to the best of my skill and ability, i
survey of the subdivision of T. 22 S., R. 22 E of the S.L
& M., Utah.

Jack Thomas, Flag

Subscribed and sworn to before me this 3
day of May, 1911

SEAL

Howard W Miller
U.S. Transit ma

6—151

Subdivision of T. 22 S., R. 22 E.

Chains.

Survey commenced May 3, 1911 and executed with a W. & L. E. Gurley solar compass No. 10443. For description and test of instrument see book "A" of this survey.

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

At my camp which is situated near the 1/4 sec. cor. on the W. bdy. of sec. 14 in this tp., latitude 38° 54' longitude 109° 29' 49" W., I set off 38° 54' on the lat. arc; 15° 36' N. on the decl. arc; and at 4h 57m p.m. l.m.t., determine with the solar a meridian, and mark a point in the line thus determined by driving a nail in a wooden hub set firmly in the ground 5 chs. N. of my station.

At 8h 00m p.m. l.m.t., by my watch which carries correct local mean time, I observe Polaris in accordance with the Manual of Instructions and mark a point in the line by driving a nail in a hub set firmly in the ground 5 chs N. of my station.

Astron. l.m.t., of Obsn. May 3, 1911			8h	00m
Equivalent to May 2			32	00
U.C. Polaris May 1,	22°	49.4m		
Reduced to May 2.		3.9		
U.C. Polaris May 2.	22	45.5	22	45.5

Subdivision of T. 22 S., R. 22 E.

Chains

Hour angle of Polaris at Obsn. 9h 14.5m
Azimuth of Polaris at observation
0° 59' W.

May 3, 1911

May 4: At 6h 57m a.m. l.m.t., I lay off the azimuth of Polaris 0° 59' E., and note that the Polaris meridian falls 0.3" east of the meridian determined with the solar. At 7h 12m a.m. l.m.t., I set off 38° 54' on the lat. arc, 15° 46' N. on the decl. arc, and determine a meridian with the solar, which meridian falls about 0.4" east of the Polaris meridian. The solar apparatus by p.m. and a.m. observations defines positions for meridians about 16" W. and 21" E. of the true Polaris meridian. I therefore conclude that the adjustments of the instrument are satisfactory. The magnetic bearing of the true meridian at 7h 27m a.m. l.m.t., is N 15° 30' W., which gives the magnetic decl 15° 30' E.

From the cor. of secs. 1, 2, 35 & 36 on the S. bdy of the tp. heretofore described.
Drun
N. 0° 01' W., brk. secs. 35 and 36.
Over mount among land, through scattering forest of cedar and pinon, and undergrowth of shadscale.
Ascend abruptly over series of small sandstone ledges.

Subdivision of T. 22 S., R. 22 E.

Chains.	
14.50	Rocky ridge, 350 ft. above sec. cor., bears E. and W.
	Descend 150 ft. to
32.75	Wash in canyon, 25 lks. wide, course NE.
	Ascend 75 ft. to
40.00	Spur, projects NE.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 35 on W. half and S 36 on E. half, raise a mound of stone 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Descend abruptly
44.20	Hollow, 75 ft. deep, course NE.
	Thence up steep land facing nearly south over series of small sandstone ledges.
75.00	Ridge, 225 ft. above hollow, bears NE. and SW.
	Gradually descend
80.00	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, marked on brass cap T 22 S. S 26 in NW., R 22 E. S. 25 in NE., S 36 in SE. and S 35 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	No suitable trees within limits
	Land, mountainous with a general NE. drain
	Soil, rocky; 4th rate, with a hard baked clay and rocky sub soil.
	Timber, scattering scrub cedar and pinon.

Subdivision of T. 22 S., R. 22 E

Chains	
	Undergrowth, short shadscale. Land mountainous or heavily timbered 80.00 chs.
	East, on a random line, bet. secs. 25 and 36
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect E. bdy of the tp 3 lks. N. of the cor. of secs. 25, 30, 31 & 36. Thence I run N. 89° 59' W., on true line bet. secs. 25 & 36. Over mountainous land facing north, through scattering forest of cedar and pinon, and under-growth of shadscale
26.00	East side of canyon bears N & S. Descend abruptly over ledges
36.00	Wash in canyon, 20 lks. wide, 130 ft. below top, course N. Ascend abruptly over ledges and boulders
40.00	75 ft. above wash, Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 25 on N. half and S 36 on S. half, raise a mound of stone 2 ft. base, 1½ ft. high N. of cor. Pits impracticable
45.40	West side of canyon, 125 ft. above wash, bears N. & S. Thence over broken land facing N.
75.00	Ridge, bears NE. & SW. Gradually descend.
80.00	The cor. of secs. 25, 26, 35 and 36. Land, mountainous with a general drain to the N. Soil, rocky and sandy with a

Subdivision of T. 22 S., R. 22 E.

Chains

rocky sub soil; 4th rate.
Timber, scrub cedar and pinon.
Underg rowth, short shadscale.
Land, mountainous or heavily timbered 80.00 chs.
May 4: At this sec. cor. I set off 15° 44' N. on the decl. arc; and at 11h 57m a. m. l. m. t., observe the sun on the meridian, the resulting lat. is 38° 52'

N. 0° 01' W., bet. secs. 25 and 26.
Over mountainous land facing N., through scattering forest of cedar and pinon, and undergrowth of shadscale.
Gradually descend.
20.00 Wash, 10 lks. wide, 2 ft. deep, course NE.
Leave cedar and pinon, brass NE. and SW.
Ascend 50 ft. to
28.50 Ridge, brass E. and W.
Enter greasewood undergrowth, brass E. & W. descend.
36.00 Leave greasewood, brass E. & W.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S. 26 on W. half and S. 25 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
41.00 Descend abruptly over huge boulders.
54.65 Wash, 10 lks. wide, 170 ft. below 1/4 sec. cor., course E.
Ascend abruptly 90 ft. to
58.00 Ridge, brass E. & W.
Gradually descend.

Subdivision of T. 22 S. R. 22 E.

Chains.	
65.30	Wash at base of high ridge, 50 lks. wide, course N. 70° E. Ascend abruptly over rocky land facing S.
79.00	Sandstone ledge, 35 ft. high, bears NE. & SW.
80.00	On top of high ridge, 325 ft. above wash, bears N 80° E & S 80° W. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone 4 ft. base, 2 ft. high for cor. of secs. 23, 24, 25 and 26, marked on brass cap T 22 S S 23 in NW., R 22 E S 24 in NE., S 25 in SE. and S 26 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Note: On account of natural obstacles I am unable to set post in the ground. Land, mountainous with a general easterly drain. Soil, rocky of volcanic formation with a rocky and hard clay sub-soil; 4th rate Timber scrub cedar and pinon on S 20 chs. Undergrowth, short shadscale and greasewood greasewood on 7.50 chs Land mountainous or heavily timbered 80.00 chs. May 4, 1911
	May 5: At 7h 57m a.m. l.m.t., I set off 38° 53' on the lat. arc; 16° 04' N. on the decl. arc; and determine

Chains	
	a meridian with the solar at the cor. of secs. 23, 24, 25 and 26.
	Thence 9 run S. 89° 59' E., on a random line, bet. secs. 24 & 25
40.00	Set temp. 1/4 sec. cor.
79.98	Intersect E. bdy. of the tp 16 lks. N. of the cor. of secs. 19, 24, 25 and 30 heretofore described.
	Thence 9 run N. 89° 52' W., on true line bet. secs. 24 & 25.
	Over mount arous land draining north, through short undergrowth of shadscale.
11.70	Wash, 15 lks. wide, 3 ft. deep, course N.
24.30	Wash, 15 lks. wide, 2 ft. deep, course NE.
35.20	Same wash, course NE.
39.45	Same wash, course S.
	Ascend.
39.99	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 24 on N. half and S 25 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
42.50	Rocky knoll.
	Descend 100 ft. to
60.50	Same wash, course NE.
	Thence up steep SE. face of ridge over ledges and boulders.
79.20	Sandstone ledge, 20 ft. high, bears NE. and SW.
79.98	The cor. of secs. 23, 24, 25 & 26.

Chains	
	Land, mountainous with a general N. drain.
	Soil, gravelly and rocky, with a rocky sub-soil; 4th rate.
	No timber.
	Undergrowth, short shadscale.
	Mountainous land 79.98 chs.
	N. 0° 01' W., bet. secs. 23 & 24.
	Over mount ainous land, through short undergrowth of shadscale.
	Descend from ridge over rocky NW. slope, 200 ft. to
20.00	Hollow, drains W.
	Ascend 75 ft. to
24.90	Top of ridge and bench, brass E. & W.
	Enter dense forest of scrub cedar and pinon.
	Gradually descend.
39.85	Wash, 40 lks. wide, 4 ft. deep, course N. 20° W.
40.00	On east side of wash.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor, marked on brass cap 1/4 S 23 on W. half and S 24 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
52.00	Same wash, 50 lks. wide, course NE.
	Ascend 125 ft. to
66.00	Ridge, brass NE. & SW.
	Leave cedar and pinon.

Chains	
	Gradually descend.
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 & 24, marked on brass cap; T 22 S S 14 in NW., R 22 E S 13 in NE., S 24 in SE. and S 23 in SW. quadrant, raise a mound of stone 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Land mountainous with a general North drain. Soil; rocky with a rocky sub-soil; 4th rate. Timber, scrub cedar and pinon, on 41.10 chs. Undergrowth, short shadscale. Land mountainous or heavily timbered 80.00 chs. May 5: At this sec. cor., I set off 16° 06' N. on the decl. arc., and at 11h 57m a.m. l.m.t., observe the sun on the mer.; the resulting lat. is 38° 54'
	S. 89° 52' E., on a random line bet. secs. 13 & 24.
40.00	Set temporary 1/4 sec. cor.
79.95	Intersect E. bdy. of the tp. 9 lks. S. of the cor. of secs. 13, 18, 19 and 24 heretofore described. Thence I run N. 89° 56' W., on true line bet. secs. 13 & 24. over hilly land, through short undergrowth of shadscale. Ascend 40 ft. to
2.05	Top of knoll, bears N & S.

Chains	
	Descend
11.60	Monument wash, 50 lks. wide, 10 ft. deep, course S. 80° E.
	Enter greasewood undergrowth bears N. 80° W., and S. 80° E.
	Thence over land facing north at base of mountain.
19.50	Leave greasewood, bears NW. and SE.
28.80	Wash, 10 lks. wide, 3 ft. deep, course N.
39.97½	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 13 on N. half and S 24 on S. half; raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable.
54.20	Wash, 25 lks. wide, 4 ft. deep, course NE.
56.20	Same wash, course SE.
60.20	Same wash, course NE.
	Ascend 50 ft. to
65.60	Ridge, bears NE. & SW.
	Thence over land facing nearly north.
79.95	The cor. of secs. 13, 14, 23 & 24.
	Land, hilly draining N. & E.
	Soil, gravelly, rocky and some alkali clay; 4th rate.
	Sub-soil, hard clay & rocky.
	No timber
	Undergrowth, short shadscale and greasewood. Greasewood undergrowth on 7.90 chs.
	N. 0° 01' W., bet. secs. 13 & 14.
	Gradually descend over rolling land, draining N., through short

Chains	
	undergrowth of shadscale.
12.00	Enter greasewood undergrowth, bears E. & W.
16.75	Wash, 50 lks. wide, 5 ft. deep, course E.
27.25	Monument wash, 50 lks. wide, 15 ft. deep, course S. 80° E. Leave greasewood undergrowth, bears N. 80° W. and S. 80° E. Begin ascent over hilly land facing S.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 14 on W. half and S 13 on E. half; dig pits 18 x 18 x 12 ins. N. & S. of post. 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
47.00	Wash, 10 lks. wide, 5 ft. deep, course SW. Ascend abruptly.
54.00	Top of bluff or ridge, 175 ft. above wash, bears E. & W. Thence gradually descend over open land facing N.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 11, 12, 13 & 14, marked on brass cap T 22 S S 11 in NW., R 22 E S 12 in NE., S 13 in SE. and S 14 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec., 5 1/2 ft. dist., raise a mound of earth 4 ft. base, 2 ft. high W. of cor. Land, hilly with a general easterly drain.

Chains	
	Soil, alkali clay and gravelly with a hard clay sub soil; 3rd rate. Undergrowth, shadscale and greasewood. Greasewood undergrowth on 15.25 chs. No timber
	S. 89° 56' E., on a random line bet. secs. 12 & 13.
40.00	Set temporary 1/4 sec. cor.
79.96	Intersect E. bdy. of the tp. 7 lks. S. of the cor. of secs. 7, 12, 13 & 18 heretofore described. Thence I run N. 89° 59' W., on true line bet. secs. 12 & 13. Over rolling land facing north through short undergrowth of shadscale.
9.30	Wash, 10 lks. wide, 2 ft. deep, course NE.
31.90	Wash, 8 lks. wide, 1 ft. deep, course N.
39.98	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 12 on N. half and S 13 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
79.96	The cor. of secs. 11, 12, 13 & 14. Land, rolling with a general north drain. Soil, alkali clay and gravelly, with a hard clay sub soil; 3rd rate. Underrowth, short shadscale.

Chains	
	No timber
	May 5, 1911
	May 8: for solar observation see line bet. secs. 22 and 23. N. 0° 01' W., bet. secs. 11 & 12.
	Gradually descend over rolling clay hills, draining N.
11.50	Wash, 10 lks. wide, 5 ft. deep course NE.
15.05	Wash, 5 lks. wide, 5 ft. deep, course NE.
26.75	Large wash, 75 lks. wide, 20 ft. deep, course E.
	Ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 11 on W. half and S 12 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
48.00	Low ridge, 75 ft. above wash, bears E. & W.
	Gradually descend.
57.50	Wash, 10 lks. wide, 4 ft. deep, course SE.
	Ascend.
62.30	Wash, 5 lks. wide, 3 ft. deep, course SE.
71.00	Ridge, 50 ft. high, bears E. & W.
	Gradually descend.
80.00	Set an iron post, 3 ft. long, 1 in. in dia., 24 ins. in the ground for cor. of secs. 1, 2, 11 and 12, marked on brass cap T. 22 S S 2 in NW., R 22 E S 1 in NE.,

chains

S 12 in SE. and
S 11 in SW. quadrant,
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, hilly.
Soil, alkali clay; 3rd rate.
Hard clay sub-soil.
No timber
No Undergrowth.
May 8, 1911.

May 9. For solar observation see
line brt. secs. 10 & 11.
S. 89° 59' E., on random line brt.
secs. 1 & 12.
40.00 Set temporary 1/4 sec. cor.
79.90 Intersect E. bdy. of the tp., 2 lks.
N. of the cor. of secs. 1, 6, 7 and
12 heretofore described
Thence True
N. 89° 58' W., on true line brt. secs.
1 & 12.
bore rolling land sloping north
through short undergrowth of
shadscale
39.95 Set an iron post, 3 ft. long, 1 in.
in dia., 26 ins. in the ground for
1/4 sec. cor., marked on brass
cap, 1/4 S 1 on N. half and S 12
on S. half, dig pits, 18 x 18 x 12
ins. E. and W. of post 3 ft. dist.;
raise a mound of earth 3½ ft.
base, 1½ ft. high N. of cor.
79.90 The cor. of secs. 1, 2, 11 & 12.
Land, rolling with a general
north drain
Soil, alkali clay and gravelly,

Chains	
	with a hard dry clay sub-soil, 3rd rate. Undergrowth, short shadscale No timber
	N. 0° 01' W., on random line, bet. secs 1 & 2
40.00	Set temporary 1/4 sec. cor.
86.75	Intersect N. bdy. of the tp. 9 lks. E. of the cor. of secs. 1, 2, 35 & 36 heretofore described. Thence I run S. 0° 05' E., on true line bet. secs. 1 & 2. Over rolling hilly land draining E.
11.05	Wash, 10 lks. wide, 5 ft. deep, course SE.
19.95	Wash, 8 lks. wide, 4 ft. deep, course SE. Ascend 50 ft. to
29.75	Ridge, bears E. & W. Descend 35 ft. to
35.45	Wash, 10 lks. wide, 5 ft. deep, course E.
43.00	Sagers wash, 50 lks. wide, 6 ft. deep, course E. Gradually ascend.
46.75	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on W. half and S 1 on E. half: dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
53.25	Rowridge, bears NE. and SW. Descend 40 ft. to
57.75	Wash, 15 lks. wide, 10 ft. deep, course E.

Subdivision of T. 22 S., R. 22 E.

Chains

62.25 Wash, 10 lks. wide, 10 ft. deep, course NE.
Thence over land facing N., gradually ascending
86.75 The cor. of secs. 1, 2, 11 & 12.
Land, hilly with a general easterly drain.
Soil, alkali clay and gravelly, with a hard dry clay sub-soil; 3rd rate.
Undergrowth, short shadscale
No timber

May 9, 1911.

May 6: At 7h 57m a.m. l.m.t., I set off 38°51' on the lat. arc; 16° 21' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 2, 3, 34 & 35 on the S. bdy. of the tp. heretofore described.
Thence I run
N. 0° 01' W., bet. secs. 34 and 35.
over rolling land sloping N. gradually descend through dense undergrowth of sage brush.
40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 34 on W. half and S 35 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post. 3 ft. dist., raise a mound of earth 3 1/2 ft. base 1 1/2 ft. high W. of cor.
43.00 Enter mountainous land brace E. and W. heavy sage brush, enter scattering cedar and pinon.
Thence

Subdivision of T. 22 S., R. 22 E.

Chains	
56.00	Ridge, 80 ft. high, bears E. and W. Descend 75 ft. to
58.75	Wash, 15 lks. wide, 5 ft. deep, course NE. Ascend land facing SE
70.00	Ridge, 100 ft. high, bears E. & W. Gradually descend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of earth and stone, 4 ft. base 2 ft. high for cor. of secs. 26, 27, 34 & 35 Marked on brass cap T22SS 27 in NW., R22ES 26 in NE., S 35 in SE. and S 34 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Note: On account of natural obstacles I am unable to set post in the ground. Land rolling and mountainous S 43 chs. rolling land draining and sloping N., covered with a dense undergrowth of sage brush Soil, rich sandy loam, with a deep sandy sub-soil; 1st rate. N. 37 chs. mountainous land with a general NE. drain. Soil, rocky with a hard clay and rock sub-soil of volcanic formation; 4th rate. Timber, some scattering scrub cedar and pinon. Undergrowth, short shadscale. Mountainous or timbered land on 37 chs.
	East, on random line bet. secs. 26 and 35.

chains	
40.00	Set temporary 1/4 sec. cor.
80.04	Intersect N. & S. line 5 lks. N. of the cor. of secs. 25, 26, 35 and 36. Thence 9 rum N. 89° 58' W., on true line bet. secs. 26 and 35. Over mountainous land facing north, through scattering forest of scrub cedar and pinon and undergrowth of short shadscale.
32.05	Wash, 15 lks. wide, 2 ft. deep, course N.
38.75	Wash, 25 lks. wide, 1 ft. deep, course N.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 26 on N. hdf and S 35 on S. hdf, dig pits, 18 x 18 x 12 ins. E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
55.75	Wash, 10 lks. wide, 3 ft. deep, course NE. Ascend 40 ft. to
58.25	Low ridge, bears NE. & SW. Descend 50 ft. to
70.00	Wash, 20 lks. wide, 3 ft. deep, course N. 30° E. Ascend 100 ft. to
80.04	The cor. of secs. 26, 27, 34 & 35. Land, mountainous with a general north drain and slope. Soil, rocky and some sand with a hard sand and rock sub-soil; 4th rate. Timber, scattering scrub cedar and pinon. Undergrowth, short shadscale.

chains	
	Mount. amous or timbered land 80.04 chs.
	May 6: At this sec. cor., I set off 16° 24' N. on the decl. arc., and at 11h 57m a. m. l. m. t., observe the sun on the meridian, the resulting lat. is 38° 52'
	N. 0° 01' W., brt. secs. 26 & 27.
	Descend over mountainous land facing NE., through short undergrowth of shadscale.
6.00	Small wash, 6 lks. wide, 1 ft. deep, course E.
	Ascend 40 ft. to
12.00	Ridge, brars E. & SW.
	Descend 70 ft. to
19.80	Wash in hollow, 20 lks. wide, course N. 60° E.
	Begin steep ascent of SE. face of high ridge over ledges and boulders.
38.25	Ridge, 400 ft. above base, brars N. 88° E. & S. 80° W.
	Gradually descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 27 on W. half and S 26 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
46.00	Wash at head of hollow, drains E.
47.25	East edge of ridge or mesa, brars SW. and N. 10° W.
	Descend along eastern slope over huge boulders.

Chains	
64.00	Enter mesa, brass NE. + SW.
67.25	High point on mesa, brass SE. and SW.
	Descend abruptly 275 ft. to
77.50	Wash in hollow, drains E.
	Ascend abruptly 75 ft. to
80.00	On steep S. slope of ridge.
	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone, 4 ft. base, 2 ft high for cor. of secs. 22, 23, 26 and 27, marked on brass cap
	T 22 S S 22 in NW.,
	R 22 E S 23 in NE.,
	S 26 in SE. and
	S 27 in SW. quadrant,
	raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles, I am unable to set post in the ground.
	Land, mountainous with a general NE. drain.
	Soil, rocky with a hard clay and rock sub soil of volcanic formation; 4th rate.
	No timber
	Undergrowth, short shadscale.
	Mountainous land, 80.00 chs.
	S. 89° 58' E., on random line, bet. secs. 23 + 26.
40.00	Set temporary 1/4 sec. cor.
80.04	Intersect N. + S. line 5 lks. S. of the cor. of secs. 23, 24, 25 + 26
	Thence 9 runs
	West, on true line bet. secs. 23 + 26.
	Over mountainous land, through short undergrowth of shadscale.

Chains.	
	Descend abruptly over rocky NW. slope of ridge
36.00	Low spur, projects N.
	Descend land facing W.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 23 on N. half and S 26 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
49.00	Wash, 5 lks. wide, 3 ft. deep, course SW.
53.50	Same wash, 20 lks. wide. course NW., 375 ft. below sec. cor.
63.75	Wash, 15 lks. wide, 1 ft. deep, course NW.
72.25	Wash, 15 lks. wide, 2 ft. deep, course NE.
	Begin ascent over rocky S. face of ridge.
80.04	125 ft. above base.
	The cor. of secs. 22, 23, 26 & 27.
	Land mountainous with a general N. drain.
	Soil, rocky with a rocky sub soil of volcanic formation; 4th rate
	Undergrowth, short shadscale.
	Some good grass for grazing on E. 30 chs.
	No timber
	Mountainous land 80.04 chs
	May 6, 1911

May 8: At 7h 56m a.m. l.m.t., I set off 38° 53' on the lat. arc, 16° 55' N. on the decl. arc; and determine a meridian with the solar at the

chains	
	cor. of secs. 22, 23, 26 and 27.
	Thence I run
	N. 0°01' W., brk. secs. 22 and 23.
	over mount amions land, through scattering forest of scrub cedar and pinon and undergrowth of shadscale.
	Ascend abruptly.
2.50	Top of ledge and ridge, 75 ft. above sec. cor., brass N. 15° E + SW.
	Thence over land facing W., at base of ledge, gradually descending into canyon.
27.90	Wash in canyon, 15 lks. wide, 275 ft. below ridge, course N. 30° E.
	Ascend abruptly
36.00	Top of steep ascent, brass NE + SW.
	Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in a mound of stone for 1/4 sec. cor., marked on brass cap 1/4 S 22 on W. half and S. 23 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
45.50	Leave cedar and pinon, brass E. and W.
68.00	Low ridge, brass E. + W.
	Thence over land facing W.
80.00	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, marked on brass cap
	T 22 S S 15 in NW.,
	R 22 E S 14 in NE.,
	S 23 in SE. and

chains	
	S 22 m SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Note: a spring of good water, bears SW. 12 chs. Land, mountainous with a general NE. drain. Soil, rocky; 4th rate. Sub-soil, solid sandstone bed rock within 2 & 3 ft. of surface. Timber, scrub cedar and pinon on S. 45.50 chs. Undergrowth, short shadscale, Land mountainous or heavily timbered 80.00 chs.
	East, on random line bet. secs. 14 & 23.
40.00	Set temporary 1/4 sec. cor.
79.98	Intersect N. & S. line, 3 lks. N. of the cor. of secs. 13, 14, 23 & 24. Thence I run N. 89° 59' W., on true line bet. secs. 14 and 23. Over hilly land draining North through short undergrowth of shadscale. Ascend 25 ft. to
3.50	Low ridge, bears N. & S. Gradually descend.
18.50	Wash, 60 lks. wide, 4 ft. deep, course N. Ascend 50 ft. to
23.00	Ridge, bears N. & S. Gradually descend.
39.99	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 14 on N. half and S 23

Chains	
	on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
51.75	Wash, 50 lks. wide, 5 ft. deep, course N.
	Ascend 60 ft. to
61.50	Ridge, bears N. & S.
	Descend
73.00	Wash, 5 lks. wide, 3 ft. deep, course N.
79.98	The cor. of secs. 14, 15, 22 & 23.
	Land mountainous with a general N. slope and drain.
	Soil, gravelly and rocky with a hard clay and gravel sub soil, 4th rate
	Undergrowth, short shadscale
	No timber
	Mountainous land 79.98 chs.
	N. 0° 01' W., bet. secs. 14 & 15.
	Gradually descend over hilly land sloping NW., through short undergrowth of shadscale
11.00	Wash in hollow, 50 lks. wide; 75 ft. below sec. cor., course NE.
	Ascend 50 ft. to
16.00	Low ridge, bears E. & W.
	Gradually descend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 15 on W. half and S 14 on E. half, 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.
50.20	Monument wash, 50 lks. wide, 20 ft. deep, course E.

Chains	
	Gradually ascend.
78.00	Top of bluff or ridge, 110 ft. above wash, bears E. & W.
	Descend
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 10, 11, 14 & 15, marked on brass cap T 22 S S 10 in NW., R 22 E S 11 in NE., S 14 in SE., and S 15 in SW. quadrant, 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 hilly, with general draw to the N. & E. Soil, alkali clay and gravelly, with a hard clay sub soil; 3rd rate Undergrowth, short shadscale. No timber Hilly land, 80.00 chs. May 8: At this sec. cor., I set off 16° 57' N. on the decl. arc; and at 11h. 57m. a.m. l.m.t., observe the sun on the meridian, the resulting lat. is 38° 55'
	S. 89° 59' E., on random line, bet. secs. 11 & 14.
40.00	Set temporary ¼ sec. cor..
80.00	Intersect N. & S. line 3 lks. S. of the cor. of secs. 11, 12, 13 & 14 Thence I run West, on true line bet. secs 11 and 14. Over rolling land sloping N., through dense undergrowth of short shadscale.

Chains

10.10 Wash, 5 lks. wide, 3 ft. deep, course NE.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 11 on N. half and S 14 on S. half, dig pits, 18 x 18 x 12 ins., E. & W. of post 3 ft. dist.; raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.

75.00 Wash, 7 lks. wide, 5 ft. deep, course N.

80.00 The cor. of secs. 10, 11, 14 and 15

Land, rolling with a general north slope and drain.

Soil, gravelly and alkali clay with a hard clay-sub-soil, 3rd rate

Undergrowth, short shadscale.

No timber

May 8, 1911.

May 9: At 7h. 56m. a.m. l.m.t., I set off 38° 55' on the lat. arc, 17° 11' N. on the decl. arc, and determine a meridian with the solar at the cor. of secs. 10, 11, 14 & 15

Thence I run

N. 0° 01' W., brt. secs. 10 & 11.

Gradually descend over rolling land sloping N., through short undergrowth of shadscale.

24.00 Wash, 7 lks. wide, 3 ft. deep, course NE.

26.50 Wash and base of descent, 75 lks. wide, 50 ft. deep, 125 ft. below sec. cor., course E.

Gradually ascend

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap

Subdivision of T. 22 S., R. 22 E.

Chains.	
	1/4 S 10 on W. hay and S. 11 on E. hay, dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
58.00	Low ridge, 75 ft. above wash, bears E. & W.
	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 & 11, marked on brass cap T 22 S S 3 in NW., R 22 E S 2 in NE., S 11 in SE. and S 10 in SW. quadrant, dig pits 18 x 18 x 12 ins., in each sec. 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor.
	Land, rolling with a general easterly drain.
	Soil, alkali clay with a hard clay sub-soil.
	Undergrowth, short shadscale
	No timber
	East, on random line, bet. secs 2 & 11.
40.00	Set temporary 1/4 sec. cor.
80.04	Intersect N. & S. line 3 lks. N. of the cor. of secs. 1, 2, 11 & 12
	Thence 9 rum.
	N. 89° 59' W., on true line, bet. secs. 2 & 11.
	Over rolling land draining N., through scattering undergrowth of short shadscale.
	Gradually ascend
18.50	Low ridge, bears N. & S.

Chains	
	Descend.
28.30	Wash, 7 lks. wide, 5 ft. deep, course N.
	Ascend.
40.02	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 on N. half and S. 11 on S. half, dig pits, 18 x 18 x 12 ins., E. & W. of post, 3 ft. disk, raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
56.05	Ridge, bears N. & S.
	Descend 30 ft. to
61.00	Wash, 5 lks. wide, 5 ft. deep, course N.
	Ascend
76.80	Ridge, bears N. & S.
	Descend.
80.04	The cor. of secs. 2, 3, 10 & 11.
	Land, rolling, with a general north drain.
	Soil, clay; 3rd rate.
	Sub-soil, hard clay.
	Undergrowth, short shadscale.
	No timber
	May 9: At this sec. cor. I set off 17° 13' N. on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 56'.
	N. 0° 01' W., on random line bet. secs. 2 & 3.
40.00	Set temporary 1/4 sec. cor.
86.75	Intersect N. bdy. of the tp. 5 lks. W. of the cor. of secs. 2, 3, 34 & 35 heretofore described
	Thence I run
	S. 0° 01' W., on true line bet. secs. 2 and 3.

Chains	
	Gradually descend over hilly land, through short undergrowth of shadscale.
5.75	Wash, 10 lks. wide, 3 ft. deep, course SE.
	Ascend 35 ft. to
10.00	Low ridge, bears E. 2 chs. & W.
	Descend 50 ft. to
14.65	Wash, 10 lks. wide, 5 ft. deep, course SE.
	Ascend 50 ft. to
20.00	Ridge, bears N. 80° W., & S. 80° E.
	Descend 60 ft. to
22.00	Sagers wash, 1 ch. wide, 15 ft. deep, course E. 1 ch., thence S. 6 chs., thence E.
28.80	Wash, 15 lks. wide, 6 ft. deep, course E.
	A spring of alkali water, bears E. 1 ch.
35.00	Wash, 10 lks. wide, 3 ft. deep, course NE.
	Ascend 40 ft. to
42.00	Ridge, bears NE. & SW.
	Gradually descend.
46.75	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S. 3 on W. half and S 2 on E. half, dig pits, 18 x 18 x 12 ins., N. & S. of post, 3 ft. dist.; raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.
58.00	Wash, 20 lks. wide, 4 ft. deep, course NE.
	Thence over land facing nearly W., gradually ascending
86.75	The cor. of secs. 2, 3, 10 & 11.
	Land, hilly with a general drain, towards the E.
	Soil, alkali clay, with a hard

Chains

Clay sub-soil, 3rd rate
Undergrowth, short shadscale.
No timber
Hilly land, 86.75 chs.
May 9, 1911

May 10: At 7h. 56m. a.m. l.m.t., I set off 38° 51' on the lat. arc, 17° 27' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 3, 4, 33 & 34 on the S. bdy. of the tp., heretofore described.
Thence I run
N. 0° 02' W., brt. secs. 33 & 34.
Over hilly land, through short undergrowth of shadscale.

0.25 Wash, 20 lks. wide, 2 ft. deep, course SW.
Gradually ascend.

13.40 Rim of rocks, bears E. & W.
Continue ascent.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 33 on W. half and S 34 on E. half, dig pits, 18 x 18 x 12 ins., N. & S. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.

52.50 Top of low ridge, 125 ft. above sec. cor., bears E. & W.
Descend 50 ft. to

65.00 Wash, 25 lks. wide, 1 ft deep, course W.
Gradually ascend

76.00 Base of high mesa, bears NW. and SE.
Begin abrupt ascent over huge boulders

Subdivision of T. 22 S., R. 22 E.

Chains	
80.00	50 ft. above base. Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone, 4 ft. base, 2 ft. high for cor. of secs. 27, 28, 33 and 34, marked on brass cap T 22 S S 28 in NW., R 22 E S 27 in NE., S 34 in SE. and S 33 in SW., quadrants raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Note: On account of natural obstacles I am unable to set post in the ground. Land, mount amous with a natural drain to the south and west. Soil, sandy and rocky; 4th rate Sub-soil, rocky and sandy. Undergrowth, short shadscale. No timber Mount amous land 80.00 chs.
	East, on random line bet. secs. 27 & 34.
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect N. & S. line at the cor. of secs. 26, 27, 34 & 35; Thence I run West, on true line bet. secs. 27 & 34 Ascend over mount amous land facing E., through scattering undergrowth of short shadscale.
4.00	Ridge, 30 ft. above sec. cor., bears N. & S. Descend 50 ft. to
15.00	Wash, 10 lks. wide, 2 ft. deep, course N. Ascend.

Chains.	
18.50	Spur, projects N.
	Descend 75 ft. to
28.50	Wash, 25 lks. wide, 2 ft. deep, course NE.
	Begin steep rocky ascent over land facing SE.
40.00	185 ft. above wash.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 2 1/2 on N. half and S 34 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor..
	Pits impracticable
	Continue ascent
50.20	Top of east side of ridge 200 ft. above 1/4 sec. cor., bears NE. & SW.
	Thence across ridge.
56.00	Head of hollow, drains N.
61.75	West side of ridge, bears NE. & SW.
	Descend abruptly.
80.00	350 ft. below top.
	The cor. of secs. 27, 28, 33 & 34.
	Land, mountainous with steep rocky SE. and SW. slopes of ridges.
	Soil, rocky, with a rock and hard clay sub-soil of volcanic formation; 4th rate.
	Undergrowth, short shadscale.
	No timber.
	Mountainous land, 80.00 chs.
	May 10: At this sec. cor., I set off 17° 29' N., on the decl. arc; and at 11h 56m a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 52'

N. 0° 02' W., brk. secs. 27 & 28.

Chains	
	over mountainous land. Ascend abruptly over SW. slope of ridge.
14.65	Top of ridge, 780 ft. above sec. cor., bears NW. & SE. Thence gradually descend over broken bruch land.
28.00	Wash, 15 lks. wide, 2 ft. deep, course NE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 28 on W. half and S 27 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable. Note: On account of natural obstacles I am unable to set the post in ground.
41.75	Edge of bruch, bears N.5° W, & SE. Thence along ledges facing E.
44.00	Edge of same bruch, bears, N.5° E, and S.5° W.
51.00	Edge of bruch, bears NW. & SE. Descend abruptly over rocky land facing N.
63.00	Wash, 775 ft. below bruch, course NW. Ascend 75 ft. to
68.00	Spur, projects NW. Descend 125 ft. to
78.00	Wash, 75 lks. wide, 10 ft. deep, course NE.
80.00	Same wash, course NW. Point for cor. of secs. 21, 22, 27 and 28 falls in wash where cor. cannot be set. For description of cor. see line bet. secs. 21 & 22.

Chains	
	Land, rough mountains with a general NE. drain. Soil, rocky and clay with a hard clay and rock sub soil of volcanic formation; 4th rate. Underg rowth, short shadscale. Timber, a few cedar. Mountainous land 80.00 chs.
	East, on random line bet. secs. 22 and 27.
40.00	Set temporary 1/4 sec. cor.
79.96	Intersect the cor. of secs. 22, 23 26 + 27. Thence I run West, on true line, bet. secs. 22 + 27. over mountainous land Ascend
2.00	Ridge, bears NE. + SW. Descend 75 ft. to
12.20	Wash in canyon, 10 lks. wide, course N. Ascend abruptly 100 ft. over ledges, to
15.80	Top of east side of flat ridge, bears N. + S. Enter scrub cedar + pinon.
28.00	West side of ridge, bears N. + S. Leave cedar and pinon. Descend abruptly over ledges and boulders
39.98	175 ft. below top at base of ridge Set an iron post, 3 ft. long, 1 in. in dia., 16 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S. 22 on N. half and S. 27 on S. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high, N. of cor.

chains.

Pits impracticable
Thence over hilly land draining N.

43.75 Wash, 15 lks. wide, 1 ft. deep, course NW.

56.70 Wash, 10 lks. wide, 1 ft. deep, course N

62.10 Wash, 10 lks. wide, 1 ft. deep, course N. 20° E.

69.15 Wash, 6 lks. wide, 2 ft. deep, course NE.

79.96 The true cor. point of secs. 21, 22, 27 and 28.

Land mountainous with a general North drain.
Soil, rocky; 4th rate
Sub-soil, rocky.
Timber, cedar & pinon on 12.20 chs.
Undergrowth, short shadscale.
Mountainous or timbered land 79.96 chs.

May 10, 1911.

May 11: At 7h. 56m. a.m. l.m.t., I set off 38° 53' on the lat. arc; 17° 43' N., on the decl. arc; and determine a meridian with the solar at the true cor. point of secs. 21, 22, 27 and 28.
Thence I run
N. 0° 02' W., brt. secs. 21 & 22.
Over mountainous land, through short undergrowth of shadscale.
Ascend from wash.

0.20 Top of bank of wash,
Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for witness cor., to secs. 21, 22,

Chains

27 and 28, marked on brass cap

T 22 S	R. 22 E
S 21	S 22
S 28	S 27

NC

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

1.95 Wash, 25 lks. wide, 8 ft. deep, course NE.

4.25 Wash, 20 lks. wide, 3 ft. deep, course E.
Begin ascent of SE. face of ridge over ledges and boulders.

19.25 Top of 25 ft. ledge and ridge, 200 ft. above base, bears NE. & SW.
Gradually descend.

40.00 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 21 on W. half and S 22 on E. half, dig pits, 18 x 18 x 12 ins. N. & S. of post, 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.

40.65 Wash, 20 lks. wide, 1 ft. deep, course NE.
Ascend 75 ft. to

48.00 Ridge, bears E. & W.
Descend

59.30 Wash, 10 lks. wide, 2 ft. deep, course NE.
Thence over land facing nearly east.

75.05 Wash, 30 lks. wide, 5 ft. deep, course NE.
Gradually ascend.

Subdivision of T. 22 S., R. 22 E.

Chains	
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 15, 16, 21, and 22, marked on brass cap T 22 S S 16 in NW., R 22 E S 15 in NE., S 22 in SE. and S 21 in SW. quadrant, 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 with a general north drain Soil, rocky and sandy with some light clay, on hard clay and rock sub-soil; 4th rate. No timber Undergrowth, short shadscale Mountainous land 80.00 chs.
	East, on random line bet. secs. 15 and 22
40.00	Set temporary 1/4 sec. cor.
79.92	Intersect N. & S. line 3 lks. N. of the cor. of secs. 14, 15, 22 & 23.
	Thence I run N. 89° 59' W., on true line bet. secs. 15 & 22. Over mountainous land draining N., through short undergrowth of shadscale. Gradually descend 35 ft. to
11.50	Wash in hollow, 40 lks. wide, course N. 35° E. Ascend 75 ft. to
16.50	Ridge, bears NE. & SW. Thence over land facing nearly north.

Chains.

39.96 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 15 on N. half and S 22 on S. half, dig pits, 18 x 18 x 12 ins., E. & W., of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.

50.00 Wash, 10 lks. wide, 2 ft. deep, course N.

Ascend 25 ft. to

53.00 Ridge, bears N. & S.

Descend 80 ft. to

63.25 Wash, 60 lks. wide, 5 ft. deep, course N. 50° E.

Thence over land facing S.

79.92 The cor. of secs. 15, 16, 21 & 22.

Land mountainous with a general N. drain and slope.

Soil, gravelly, rocky and some hard clay; 4th rate.

Sub-soil, hard clay and rocky; 4th rate

No timber.

Undergrowth, short shadscale.

Mountainous land 79.92 chs.

May 11: At this sec. cor., I set off 17° 45' N. on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 54'

N. 0° 02' W., bet. secs. 15 & 16.

Gradually ascend over hilly land, through short undergrowth of shadscale.

9.00 Ridge, 75 ft. above sec. cor., bears N. 66° E., and S. 60° W.

Gradually descend land facing N.

Subdivision of T. 22 S., R. 22 E.

Chains	
25.60	Wash, 10 lks. wide, 2 ft. deep, course NE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 16 on W. half and S 15 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist.; raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
41.70	Wash, 10 lks. wide, 5 ft. deep, course NE.
44.10	Monument wash, 25 lks. wide, 5 ft. deep, course E. Gradually ascend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 9, 10, 15 & 16, marked on brass cap T 22 S S 9 in NW., R 22 E S 10 in NE., S 15 in SE. and S 16 in SW. quadrant; dig pits, 18 x 18 x 12 ins., in each sec. 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land, hilly and rolling with a general easterly drain. Soil, gravelly and hard alkali clay with a hard clay sub-soil; 4th rate No timber. Undergrowth, short shadscale
	S. 89° 59' E., on random line bet. secs. 10 & 15
40.00	Set temporary 1/4 sec. cor
79.98	Intersect N. & S. line 3 lks. N. of

chains

the cor. of secs. 10, 11, 14 and 15
Thence I run
N. 59° 58' W., on true line bet. secs. 10 & 15.
Gradually ascend over hilly land facing nearly north, through short undergrowth of shadscale.
12.00 Ridge, bears NW. and S. 80° E.
Descend 90 ft. to
36.60 Wash, 25 lks. wide, 5 ft. deep, course SE.
Gradually ascend.
39.99 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 10 on N. half and S 15 on S. half, dig pits, 18 x 18 x 12 ins. E. & W. of post 3 ft. dist.; raise a mound of earth, 3½ ft. base, 1½ ft. high N. of cor.
79.98 The cor. of secs. 9, 10, 15 & 16
Land rolling and hilly
E. 12 chs. hilly land draining N.
W 67.98 chs., rolling land draining SE.
Soil, alkali clay; 4th rate
Sub-soil, a hard clay.
No timber
Undergrowth, short shadscale.
May 11, 1911

May 13: At 7h. 56m. a.m. l.m.t., I set off 38° 55' on the lat. arc; 15° 13' N., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 9, 10, 15 and 16.
Thence I run

Subdivision of T. 22 S., R. 22 E.

chains	
	N. 0° 02' W., bet. secs. 9 & 10. over rolling land sloping E., through short undergrowth of shadscale.
27.25	Wash, 10 lks. wide, 5 ft. deep, course E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 9 on W. half, and S 10 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
41.80	Wash, 10 lks. wide, 5 ft. deep, course E.
52.00	Enter greasewood undergrowth, brars E. & W.
56.75	Wash, 25 lks. wide, 10 ft. deep, course E.
68.00	Leave greasewood undergrowth, brars E. & W.
70.10	Wash, 70 lks. wide, 10 ft. deep, course SE.
77.90	Same wash, course SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 3, 4, 9 & 10 marked on brass cap T 22 S S 4 in NW., R 22 E S 3 in NE., S 10 in SE. and S 9 in SW. quadrant, dig pits, 18 x 18 x 12 ins. in each sec; 5 1/2 ft. dist.; raise a mound of earth, 4 ft. base, 2 ft. high W. of cor. Land, rolling with a general easterly drain.

chem

Soil, adobe clay with an alkali clay sub-soil; 4th rate
No timber
Undergrowth, shadscale and greasewood. Greasewood under-growth on 16.00 chs.

S. 89° 58' E., on random line bet. secs. 3 & 10
40.00 Set temporary 1/4 sec. cor
79.90 Intersect N. & S. line 5 lks. S. of the cor. of secs. 2, 3, 10 & 11
Thence I run
West, on true line bet. secs. 3 & 10
Over rolling land through short undergrowth of shadscale.
10.30 Wash, 5 lks. wide, 5 ft. deep, course N.
21.50 Wash, 5 lks. wide, 5 ft. deep, course N.
39.95 Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 3 on N. half and S 10 on S. half, dig pits 18 x 18 x 12 ins. E. & W. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
49.00 Wash, 7 lks. wide, 5 ft. deep, course S.
65.75 Wash, 20 lks. wide, 10 ft. deep, course S.
67.50 Wash, 15 lks. wide, 10 ft. deep, course S.
68.45 Wash, 15 lks. wide, 10 ft. deep, course S.
72.75 Wash, 80 lks. wide, 15 ft. deep, course SE.
79.90 The cor. of secs. 3, 4, 9 & 10.

Subdivision of T. 22 S., R. 22 E.

Chains	
	Land, rolling, draining N. on E. 49 chs. and S. on W. 30.90 chs. Soil, alkali clay with a alkali clay sub-soil; 4th rate. Undergrowth, short shadscale No timber. May 13: At this sec. cor., I set off 18° 15' N., on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 56'
	The cor. of secs. 3, 4, 33 & 34 on the N. bdy. of the tp. being plainly visible I run for said cor. N. 0° 06' W., on random line bet. secs. 3 & 4.
40.00	Set temporary 1/4 sec. cor.
86.70	Intersect the cor. of secs. 3, 4, 33 and 34 on the N. bdy. of the tp. heretofore described. Thence I run S. 0° 06' E., on true line bet. secs. 3 & 4. Gradually descend over rolling land, through scattering undergrowth of greasewood.
17.45	Leave greasewood undergrowth enter short shadscale, bears E. & W.
27.70	Sagers wash, 1 ch. wide, 8 ft. deep, course S. 80° E. Gradually ascend
46.70	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 4 on W. half, and S 3 on E. half, dig pits, 18 x 18 x 12 ins., N. & S. of post 3 ft. dist.; raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high W. of cor.

Chains	
70.70	Top of ascent, bears E. & W. Gradually descend.
84.70	Wash, 40 lks. wide, 15 ft. deep, course S. 80° E.
86.70	The cor. of secs. 3, 4, 9 & 10 Land rolling with a general E. drain. Soil, alkali clay with a hard clay sub-soil; 4th rate. No timber Undergrowth, short shadscale and greasewood. Greasewood undergrowth on N. 17.45 chs. May 13 - 1911

May 12: At 7h. 56m. a.m. l.m.t., I set off 38° 51' on the lat. arc; 17° 58' N. on the decl. arc; and determine a meridian with the solar at the witness cor. to secs. 4, 5, 32 and 33 on the S. bdy. of the tp. heretofore described
Thence from the true point for cor. I run N. 0° 03' W., bet. secs. 32 & 33.
Gradually descend over mountainous land, through scattering forest of scrub cedar and undergrowth of shadscale.

20.00	Leave scattering cedar, bears E. and W.
29.00	Wash, 10 lks. wide, 2 ft. deep, course S. 70° W. Ascend 75 ft. to
35.00	Low flat ridge, bears E. & W. Descend.
39.50	The point for the 1/4 sec. cor. will fall in wash where cor. cannot be set. Set an iron post, 3 ft. long, 1 in. in

Chains	
	dia., 26 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap T. 22 S R 22 E on N. half, S 33 on E. half, S 32 on W. half with WC 1/4 to the N.; dig pits, 18 x 18 x 12 ins. N. & S. of post 3 ft. dist.; raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
40.00	Point for 1/4 sec. cor. falls in wash, 30 lks. wide, 2 ft. deep, course W.
	Ascend abruptly over rocky land.
43.35	Top of ledge, 30 ft. high, bears E. & W.
	Continue to ascend
46.00	Ridge, 100 ft. above wash, bears E. & W.
	Descend 75 ft. to
60.15	Wash, 40 lks. wide, 3 ft. deep, course SW.
	Gradually ascend.
71.00	Begin steep ascent over rocky land facing SW.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 28, 29, 32 and 33 marked on brass cap T 22 S S 29 in NW., R 22 E S 28 in NE., S 33 in SE. and S 32 in SW. quadrant; raise a mound of stone 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable.
	Land mount ainous with a general W. drain.
	Soil, rocky and hard clay with a hard clay and rock sub soil; 4th rate.

Chains	
	Timber, scattering scrub cedar on S. 20 chs. Undergrowth, short shadscale. Mountainous or timbered land, 80.00 chs.
	East, on random line bet. secs. 28 and 33.
40.00	Set temporary 1/4 sec. cor.
80.01	Intersect N. & S. line 3 lks. S. of the cor. of secs. 27, 28, 33 & 34. Thence I run S. 89° 59' W., on true line bet. secs. 28 and 33. over mountainous land. Descend abruptly.
4.00	Base of ridge, bears NW. & SE. Thence over land facing S. at base of high ridge.
23.50	Begin ascent of spur, bears NE. & SW.
32.00	Spur, 200 ft. above base, projects S. Descend 100 ft. to
40.00 1/2	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 28 on N. half and S 33 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor. Pits impracticable
52.00	Base of descent, 225 ft. below spur, bears NW. and SE.
57.50	Begin ascent over rocky land, bears NE. & SW.
74.50	Spur, 175 ft. above base, projects S. Descend abruptly 125 ft. to
80.01	The cor. of secs. 28, 29, 32 and 33. Land, mountainous facing S. and with a general W. drain. Soil, rocky and hard clay with a

Chains.	
	rocky and baked clay sub soil, of volcanic formation; 4th rate. No timber No Undergrowth. Mountainous land 80.01 chs. May 12: At this sec. cor. I set off 18° 00' N. on the decl. arc; and at 11h 56m a.m. l.m.t., observe the sun on the Meridian the resulting lat. is 38° 57'
	N. 0° 03' W., bet. secs. 28 and 29. over mountainous land. Ascend abruptly over S. face of ridge.
8.50	Top of ridge, 750 ft. above sec. cor., bears E. & W. Enter forest of scrub cedar and pinon. Gradually descend.
24.00	Wash, 10 lks. wide, 2 ft. deep, course N. 30° E. Ascend 75 ft. to
32.00	Low ridge, bears NE. & SW. Gradually descend over land sloping NE.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 29 on W. half and S 28 on E. half, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable
60.30	Wash, in hollow, 10 lks. wide, 2 ft. deep, 75 ft. below 1/4 sec. cor., course NE. Ascend 50 ft. to
69.00	Low ridge, bears NE. & SW. Gradually descend.

Chains	
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in a mound of stone, 4 ft. base, 2 ft. high, for cor. of secs. 20, 21, 28 and 29, marked on brass cap T 22 S S 20 in NW., R 22 E S 21 in NE., S 28 in SE. and S 29 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Note: on account of natural obstacles I am unable to set post in the ground. Land mountainous S 8.50 chs. steep rocky slope of ridge facing and draining SW. N 71.50 chs. gradual NE. slope of land draining NE. Soil, rocky and clay, with a rock and clay sub-soil, of volcanic formation; 4th rate. Timber, scrub cedar and pinon on N. 71.50 chs. Undergrowth, some short shadscale. Mountainous or timbered land, 80.00 chs.
	N. 89° 59' E., on random line bet. secs. 21 and 28.
40.00	Set temporary 1/4 sec. cor.
79.96	Intersect N. + S. line 9 lks. N. of the true cor. point of secs. 21, 22, 27 and 28. Thence I run N. 89° 59' W., on true line bet. secs. 21 and 28.

chains	
	over mountainous land draining NE., through short undergrowth of shadscale.
	Descend in wash
0.25	Wash turns N.
11.70	Wash, 30 lks. wide, 5 ft. deep, course NE.
	Ascend abruptly, 175 ft. over ledges to
19.75	Top of ledge 20 ft. high, bears NE. + SW. Enter scrub cedar + pinon
	Gradually descend
23.70	Wash, 15 lks. wide, 2 ft. deep, course N. 20° E.
	Ascend 75 ft. to
33.00	Ridge, bears NE. and SW.
	Gradually descend.
39.98	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 27 on N. half and S 28 on S. half, raise a mound of stone 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
53.70	Descend abruptly into canyon.
62.50	Wash, in canyon, 30 lks. wide, 200 ft. below 1/4 sec. cor., course NE. 6 ch. thence N.
	Ascend abruptly.
67.50	Top of ridge, 100 ft. above canyon, bears NE. + SW.
	Descend 75 ft. to
74.40	Gulch drains NE.
	Ascend 100 ft. to
79.96	The cor. of secs. 20, 21, 28 and 29.
	Land mountainous draining NE.
	Soil, rocky and clay, with rock and hard clay sub-soil; 4th rate

chains	
	Timber, scrub cedar and pinon on W. 60.26 chs. Undergrowth, some short shadscale. Mount ainous or timbered land, 79.96 chs. May 12, 1911
	May 13: For solar observation see line bet. secs. 9 and 10. N. 0° 03' W., bet. secs. 20 & 21. Gradually descend over mountainous land facing N., through forest of scrub cedar and undergrowth of short shadscale.
40.00	150 ft. below sec. cor. Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 20 on W. half and S 21 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post 3 ft. dist., raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
42.50	Wash, 10 lks. wide, course N. 75° E 3 chs., thence N. Ascend 50 ft. to
49.00	Ridge, bears NE. and SW. Descend.
56.00	Leave cedar, bears E. & W.
78.50	Wash, 5 lks. wide, 2 ft. deep, course NE. Ascend 20 ft. to
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 16, 17, 20 and 21 marked on brass cap T. 22 S S 17 in NW., R 22 E S 16 in NE., S 21 in SE. and.

Chains.	
	S 20 in SW. quadrant., dig pits 18 x 18 x 12 ins. in each sec. 5 1/2 ft. dist.; raise a mound of earth 4 ft. base, 2 ft. high W. of cor.
	Land, mount ainous, with a general N. slope and drain.
	Soil, rocky, gravelly and some hard clay with a hard clay and rock sub-soil; 4th rate.
	Timber, scrub cedar on S. 56 chs.
	Undergrowth, short shadscale.
	Mountainous or timbered land 80.00
	May 13, 1911
	May 15: At 7h. 56m. a.m. l.m.t., I set off 38°54' on the lat. arc; 18° 43' 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
	S. 89°57' E., on random line bet. secs. 16 and 21
40.00	Set temporary 1/4 sec. cor.
79.86	Intersect N. & S. line 7 lks. S. of the cor. of secs. 15, 16, 21 and 22.
	Thence I run
	West, on true line bet. secs. 16 & 21. over hilly land draining NE.
	Gradually ascend along S. face of low ridge through short undergrowth of shadscale.
26.00	Enter scattering scrub cedar, brars N. & S.
39.93	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4

Chains	
	S 16 on N. half and S 21 on S. half, raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
	Note: Cor. situated on low ridge, bearing N. & S.
	Gradually descend over land facing W.
45.00	Leave cedar, bears N. & S.
55.25	Wash, 30 lks. wide, 4 ft. deep, course N. 6 chs., thence NW.
71.80	Wash, 5 lks. wide, 2 ft. deep, course NE.
	Gradually ascend.
79.86	The cor. of secs. 16, 17, 20 and 21. Land rolling mountainous with a general drain to the NE.
	Soil, rocky, gravelly and clay; 4th rate.
	Sub-soil, rocky and clay; 4th rate
	Timber, scrub cedar on 19 chs.
	Undergrowth, short shadscale.
	Mountainous or timbered land.
	79.86 chs.
	N. 0° 03' W., bet. secs. 16 & 17.
	Over hilly land draining NE., through short undergrowth of shadscale.
25.00	Monument wash, 10 lks. wide, 5 ft. deep, course N. 75° E.
	Gradually ascend
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on W. half and S 16 on E. half, dig pits 18 x 18 x 12 ins., N. & S. of post 3 ft. dist.; raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.

chains	
70.60	Top of ridge or bluff, 75 ft. above wash, bears E. & W. Gradually descend over land sloping NE.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 8, 9, 16 & 17, marked on brass cap T 22 S S 8 in NW., R 22 E S 9 in NE., S 16 in SE. and S 17 in SW. quadrant, 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 hilly, with a general easterly drain. Soil, adobe clay and gravelly with a hard clay sub-soil; 4th rate. No timber Undergrowth short shadscale. Hilly land, 80.00 chs.
	East, on random line bet. secs. 9 & 16.
40.00	Set temporary 1/4 sec. cor.
79.90	Intersect the cor. of secs. 9, 10, 15 and 16. Thence I run West, on true line bet. secs. 9 & 16. Gradually ascend over rolling land sloping NE., through short undergrowth of shadscale.
39.95	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 9 on N. half and S 16 on S. half, dig pits, 18 x 18 x 12 ins., E. & W. of.

chains	
	post 3 ft. dist., raise a mound of earth, 3½ ft. base, 1½ ft. high N. of cor.
79.90	The cor. of secs. 8, 9, 16 + 17. Land rolling with a general NE. slope and drain. Soil, gravelly and hard clay with a hard clay sub-soil; 4th rate. No timber Undergrowth, short shadscale.
	N. 0° 03' W., bet. secs. 8 + 9. Gradually descend over rolling land sloping NE., through short undergrowth of shadscale.
19.00	Wash, 7 lks. wide, 2 ft. deep, course NE.
39.55	Wash, 7 lks. wide, 2 ft. deep, course N. 70° E.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 8 on W. half and S 9 on E. half, dig pits 18 x 18 x 12 ins., N. + S. of post 3 ft. dist.; raise a mound of earth, 3½ ft. base, 1½ ft. high W. of cor.
72.00	Leave rolling land, bears E. + W. Thence over level land.
76.00	Wash, 10 lks. wide, 2 ft. deep, course N. 70° E.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 4, 5, 8 and 9, marked on brass cap T 22 S S 5 in NW., R 22 E S 4 in NE., S 9 in SE. and S 8 in SW. quadrant;

chains.	
	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 rolling and level with a general easterly drain. S. 72 chs. rolling land. N. 8 chs. level land. Soil adobe clay and gravelly with a hard clay sub-soil; 4th rate. No timber Undergrowth short shadscale. May 15: At this sec. cor. I set off 18° 45' N. on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian, the resulting lat. is 38° 56'
	East, on random line bet. secs. 4 and 9
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect N. & S. line 3 lks. N. of the cor. of secs. 3, 4, 9 + 10 Thence I run N. 89° 59' W., on true line bet. secs. 4 + 9. over level land draining east, through short undergrowth of shadscale.
34.00	Wash, 50 lks. wide, 7 ft. deep, course NE. 4 chs., thence E..
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 4 on N. half and S 9 on S. half, dig pits 18 x 18 x 12 ins. E. and W. of post 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
48.30	Wash, 7 lks. wide, 7 ft. deep, course N.

chains	
62.45	Wash, 30 lks. wide, 10 ft. deep, course N. 60° E.
80.00	The cor. of secs. 4, 5, 8 and 9. Land, level with general E. drain. Soil, adobe clay; 3rd rate. Sub-soil, hard, dry clay. No timber. Undergrowth, short shadscale.
	N. 0° 03' W., on random line bet. secs. 4 & 5
40.00	Set temporary 1/4 sec. cor.
86.62	Intersect N. bdy. of the tp. 14 lks. E. of the cor. of secs. 4, 5, 32 and 33 heretofore described
	Thence I run S. 0° 09' E., on true line bet. secs. 4 and 5. Gradually descend over rolling land through short undergrowth of shadscale.
8.75	Wash, 10 lks. wide, 4 ft. deep, course N. 70° E.
	Ascend.
35.50	Top of ridge, brass N. 30° W. & S. 80° E. Descend abruptly 75 ft. to
46.62	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 5 on W. half and S 4 on E. half, dig pits 18 x 18 x 12 ins., N. & S. of post 3 ft. dist.; raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor. Note: Cor. is situated at base of bluff, brass NW. and SE. Thence over level land draining E.
68.00	Wash, 30 lks. wide, 15 ft. deep, course SE.
86.62	The cor. of secs. 4, 5, 8 and 9.

Chains.	
	Land rolling and level, draining E. Rolling land on N. 46.62 chs. Level land, S. 40 chs. Soil, gravelly and adobe clay: 4th rate Sub-soil, hard clay. Undergrowth, short shadscale. No timber. May 15-1911
	May 16: At 7h. 56m. a.m. l.m.t., I set off 38° 51' on the lat. arc; 18° 57' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 5, 6, 31 and 32 on the S. bdy of the Tp. heretofore described Thence I run N. 0° 03' W., brk. secs. 31 and 32. Gradually descend over rolling sandy land facing N.
38.00	Leave sandy land, enter rocky land bears E. and SW.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 31 on W. half and S. 32 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor. Pits impracticable Note: On account of natural obstacles I am unable to set post in the ground.
41.85	Wash, 15 lks. wide, 15 ft. deep, course SW. Ascend 75 ft. to
51.50	Low ridge, bears E. & W. Descend 50 ft. to
56.50	Wash, 15 lks. wide, 3 ft. deep, course SW.

chains

Gradually ascend.

62.00 Base of high ridge, trees E. & W.
Ascend abruptly over land facing S.

77.60 Ridge, 50 ft. high and top of steep ascend. 350 ft. above base, trees E. & W.
Gradually ascend

80.00 Set an iron post, 3 ft. long, 2 in. in dia., 24 in. in the ground for cor. of secs. 29, 30, 31 and 32.
Marked on brass cap
T 22 S S 30 in NW.,
R 22 E S 29 in NE.,
S 32 in SE. and
S 31 in SW. quadrant;
raised a mound of stone, 2 ft. base, 1½ ft. high W. of cor.
Pits impracticable
Land hilly and rough mountainous, with a general drain to the W. Hilly land on S. 63 ch. Mountainous land on N. 17 ch.
Soil, sandy and rocky with sand and rock sub-soil; 4th rate.
No timber
Undergrowth, short chaparral.
Mountainous land on 80.00 ch.

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

40.00 Set temporary 1/4 sec. cor.

79.47 Intersect the cor. of secs. 28, 29, 32 and 33.
Thence 9 rem
West, on true line bet. secs. 29 and 32.
over rough stony ground facing S., near base of high ridge

chains.	
39.98¼	Point for 1/4 sec. cor. falls in wash, 15 lks. wide, 3 ft. deep, course S. No cor. set.
40.27	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for witness cor. to the 1/4 sec. cor., marked on brass cap T 22 S R 22 E S 29 on N. half, S 32 on S. half, with WC 1/4 to the E., raise a mound of stone, 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
	Begin steep ascent over rocky land facing E.
52.00	Top of 15 ft. ledge and edge of mesa, 275 ft. above witness cor., brass NE. + S.
	Thence over gently rolling land, through short undergrowth of shadscale
63.00	Enter scattering scrub cedar, brass N. + S.
79.97	The cor. of secs. 29, 30, 31 and 32.
	Land mountainous and rolling with a general S. drain. E. 52 chs. mountainous land forming the S. face of high ridge and mesa. W. 27.97 chs. gently rolling mesa top.
	Soil, rocky and clay, on hard clay and rocky sub-soil; 4th rate.
	Timber, scrub cedar on W. 16.97 chs.
	Undergrowth short shadscale on W. 27.97 chs.
	Some good grass for grazing on W. 30.00 chs.
	Mountainous or timbered land on 79.97 chs.
	May 16: At this sec. cor., I set off.

Chains	
	18° 59' N., on the decl. arc; and at 11h 56m a. m. l. m. t., observe the sun on the meridian, the resulting lat. is 38° 52'
	West, on random line bet. secs. 30 and 31.
40.00	Set temporary 1/4 sec. cor
78.19	Intersect W. bdy. of the tp. 5 lks. N. of the cor. of secs. 25, 30, 31 and 36 heretofore described.
	Thence I run
	N. 89° 58' E., on true line bet. secs. 30 & 31.
	over mountainous land
	descend abruptly over rocky land facing NE.
7.30	Wash in hollow, 30 lks. wide, 200 ft. below sec. cor., course S. 20° W.
	Ascend abruptly 275 ft. to
27.00	Edge of mesa, bears N. 70° E. 4 chs., thence NW.
	Gradually descend.
35.65	Hollow near head, drains NW.
	Ascend abruptly.
38.19	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone, 4 ft. base, 2 ft. high for 1/4 sec. cor., marked on brass cap 1/4 S 30 on N. half, and S 31 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
	Note: on account of natural obstacles I am unable to set post in the ground.
42.50	Top of steep ascent bears NW & SE.
	Gradually ascend.
72.50	Top of ridge, 175 ft. above 1/4 sec. cor., bears NE. and S. 80° W.

chains	
	Gradually descend 40 ft. to
78.19	The cor. of secs. 29, 30, 31 and 32.
	Land, mountainous.
	Soil, rocky, clay and gravelly on hard clay and rock sub-soil; 4th rate.
	Timber, a few scattering cedar.
	Undergrowth, some short shadscale.
	Mountainous land 78.19 chs.
	N. 0° 03' W., bet. secs. 29 & 30.
	over mountainous land through scattering forest of scrub cedar and undergrowth of short shadscale
	Ascend 50 ft. to
5.00	Ridge, bears NE. + SW.
	Gradually descend over land facing NW.
25.00	Wash, 30 lks. wide, 3 ft. deep, course N. 30° W., 4 chs., thence N.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in a mound of stone 4 ft. base, 2 ft. high for 1/4 sec. cor.; marked on brass cap 1/4 S 30 on W. half and S 29 on E. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable
	Note: On account of natural obstacles I am unable to set post in the ground.
49.50	Edge of mesa, bears N. 70° E. and S. 70° W.
	Leave cedar.
	Descend abruptly 100 ft. to
53.50	Base of abrupt descent, gradually descend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor.

chains	
	of secs. 19, 20, 29 and 30, marked on brass cap T 22 S S 19 in NW., R 22 E S 20 in NE., S 29 in SE. and S 30 in SW. quadrant, raise a mound of stone, 2 ft. base, 1½ ft. high W. of cor. Pits impracticable Land mount amous with a general N. drain. Soil, rocky and clay on hard clay and rock sub-soil; 4th rate. Timber, some scrub cedar on S. 49.50 chs. Undergrowth, short shadscale Mount amous or timbered land 80.00 chs. May 16, 1911
	May 17: At 7h 56m a.m. l.m.t., I set off 38° 53' on the lat. arc; 19° 11' N. on the decl. arc; and determine a meridian with the solar at the cor. of secs. 19, 20, 29 and 30 Thence I run. East, on random line bet. secs. 20 and 29
40.00	Set temporary 1/4 sec. cor.
80.00	Intersect N. & S. line 3 lks. N. of the cor. of secs. 20, 21, 28 and 29. Thence I run N. 89° 59' W., on true line bet. secs. 20 and 29. Over mount amous land draining N., through forest of scrub cedar and undergrowth of short shadscale Descend 50 ft. to
11.25	Wash, 25 lks. wide, 2 ft. deep, course N. 20° E.

chains.	
	Ascend 50 ft. to
17.00	Ridge, bears NE. and SW.
	Descend abruptly 200 ft. to
30.00	Wash, in hollow, 15 lks. wide, course N.
	Ascend 75 ft. to
39.85	Top of 30 ft. ledge and edge of mesa, bears N. 20° E + SW.
	Leave cedar and undergrowth of shadscale.
	Descend
40.00	At base of ledge.
	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 20 on N. half and S 29 on S. half, raise a mound of stone 2 ft. base, 1½ ft. high N. of cor.
	Pits impracticable
42.25	Wash and base of mesa, course N. 35° W.
	Thence over broken land facing N.
80.00	The cor. of secs. 19, 20, 29 and 30.
	Land, mountainous with a general N. drain.
	Soil, rocky and clay on hard clay and rock sub-soil; 4th rate.
	Timber, scrub cedar on E. 39.85 chs.
	Undergrowth, short shadscale on E. 39.85 chs.
	Mountainous or timbered land 80.00 chs.
	S. 89° 58' W., on random line bet. secs. 19 + 30
40.00	Set temporary 1/4 sec. cor.
78.06	Intersect W. bdy. of the tp. 7 lks. S. of the cor. of secs. 19, 24, 25 and 30

Chains.	
	Heretofore described
	Thence I run
	S. 89° 59' E., on true line brt. secs. 19 and 30.
	Over mountainous land, through short undergrowth of shadscale.
	Ascend over land facing NW.
23.00	Top of mesa, 150 ft. above sec. cor. brars N. & S.
	Enter scattering cedar and pinon.
30.00	Leave cedar and pinon, brars N. & S.
38.06	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 19 on N. half and S 30 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
44.00	Wash, 20 lks. wide, 3 ft. deep, course N. 20° W.
51.00	East side of mesa, brars NE. 6 ch. thence N. and S.
	Descend abruptly 125 ft. to
60.00	Base of mesa, brars NE. & S.
	Thence over broken land.
69.75	Wash, 25 lks. wide, 2 ft. deep, course NE.
78.06	The cor. of secs. 19, 20, 29 and 30
	Land, mountainous with a general drain to the north.
	Soil, rocky and clay on hard clay and rock sub-soil of volcanic formation; 4th rate
	Timber, scrub cedar and pinon on 7 chs.
	Undergrowth, short shadscale.
	Mountainous or timbered land, 78.06 chs.
	N. 0° 03' W., brt. secs. 19 and 20.

chains.	
	Gradually descend over mountainous land draining NE., through short undergrowth of shadscale.
24.00	Wash, 50 lks. wide, 2 ft. deep, course N. 30° E.
32.25	Wash, 10 lks. wide, 4 ft. deep, course NE.
	Gradually ascend.
36.00	Low spur, projects NE.
	Descend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 19 on W. half and S 20 on E. half, dig pits 18 x 18 x 12 ins. N. & S. of post. 3 ft. dist.; raise a mound of earth 3 1/2 ft. base, 1 1/2 ft. high W. of cor.
72.00	Wash, 10 lks. wide, 3 ft. deep, course NE.
	Gradually ascend.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 17, 18, 19 and 20, marked on brass cap T 22 S S 18 in NW., R 22 E S 17 in NE., S 20 in SE. and S 19 in SW. quadrant; raise a mound of stone, 2 ft. base, 1 1/2 ft. high W. of cor.
	Pits impracticable.
	Land, mountainous with a general NE. drain.
	Soil, rocky, gravelly and clay on hard clay and rock sub-soil; 4th rate
	No timber

Chains	
	Undergrowth, short shadscale. Mountainous land, 80.00 chs. May 17: At this sec. cor., I set off 19° 13' N., on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian; the resulting lat. is 38° 54'.
	S. 89° 59' E., on random line bet. secs. 17 and 20.
40.00	Set temporary 1/4 sec. cor.
80.08	Intersect the cor. of secs. 16, 17, 20 and 21.
	Thence I run N. 89° 59' W., on true line bet. secs. 17 and 20.
	Gradually descend over rolling mountainous land draining NE., through short undergrowth of shadscale.
36.75	Wash, 50 lks. wide, 5 ft. deep, course NE.
40.04	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 17 on N. half and S 20 on S. half, dig pits, 18 x 18 x 12 ins., E. & W. of post 3 ft. dist.; raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
47.00	Wash, 15 lks. wide, 3 ft. deep, course N. 15° E.
53.00	Wash, 10 lks. wide, 3 ft. deep, course NE.
71.85	Same wash, 7 lks. wide, 3 ft. deep, course S. 70° E.
74.15	Same wash, 7 lks. wide, 3 ft. deep, course N. 80° E.
80.08	The cor. of secs. 17, 18, 19 & 20.

Chains.	
	Land, rolling mountainous draining NE.
	Soil, rocky and gravelly; 4th rate
	Sub-soil, hard clay.
	No timber.
	Undergrowth, short shadscale.
	Mountainous land, 80.08 chs.
	N. 89° 59' W., on random line brt. secs. 18 & 19
40.00	Set temporary 1/4 sec. cor.
77.96	Intersect W. bdy. of the Tp. 12 lks. S. of the cor. of secs. 13, 18, 19 & 24 heretofore described.
	Thence I run
	S. 89° 54' E., on true line brt. secs. 18 and 19.
	Over rolling land draining east.
	Through undergrowth of greasewood.
32.00	Monument wash, 7 lks. wide, 5 ft. deep, course N. 75° E.
	Leave greasewood undergrowth enter hilly land, bears NE. & SW.
	Ascend.
37.96	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 18 on N. half and S 19 on S. half, raise a mound of stone, 2 ft. base, 1 1/2 ft. high N. of cor.
	Pits impracticable
49.00	Low rocky ridge, 75 ft. above wash, bears N. & S.
	Gradually descend.
53.90	Wash, 8 lks. wide, 2 ft. deep, course NE.
77.96	The cor. of secs. 17, 18, 19 & 20
	Land rolling and hilly with general easterly drain.

Chains	
	W. 32 chs. rolling land. soil, adobe clay with a hard clay sub soil. 4th rate E. 45.96 chs Hilly land. soil, rocky, gravelly and clay, with a hard clay and rock sub-soil; 4th rate No timber Undergrowth greasewood on W. 32.00 chs. May 17, 1911
	May 18: At 7h. 56m. a.m. l.m.t., I set off 38° 54' on the lat. arc; 19° 25½' N., on the decl. arc; and determine a meridian with the solar at the cor. of secs. 17, 18, 19 & 20. Thence I run N. 0° 03' W., bet. secs. 17 & 18 over hilly land draining E., through short undergrowth of shadscale.
14.00	Wash, 7 lks. wide, 2 ft. deep, course N. 75° E.
19.20	Wash, 10 lks. wide, 3 ft. deep, course E.
	Gradually ascend.
40.00	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 18 on W. hat and S 17 on E. hat, dig pits 18 x 18 x 12 ins., N. & S. of post 3 ft. dist.; raise a mound of earth 3½ ft. base, 1½ ft. high W. of cor.
48.00	Ascend abruptly.
55.00	Top of ridge or bluff, 85 ft. above 1/4 sec. cor., bears N. 70° E., and S. 70° W.
	Gradually descend over land.

Chains	
	facing N.
80.00	Set an iron post, 3 ft. long, 2 ins. in dia., 24 ins. in the ground for cor. of secs. 7, 8, 17 and 18, marked on brass cap T 22 S S 7 in NW., R 22 E S 8 in NE., S 17 in SE. and S 18 in SW. quadrant; 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, hilly with a general east drain Soil, adobe clay on a hard clay sub-soil; 4th rate No timber Undergrowth, short shadscale. Hilly land, 80.00 chs
	S. 89° 59' E., on random line bet. secs. 8 & 17.
40.00	Set temporary 1/4 sec. cor.
80.10	Intersect N. & S. line 9 lks. N. of the cor. of secs. 8, 9, 16 and 17. Thence I run N. 89° 55' W., on true line bet. secs. 8 and 17. Over rolling hilly land sloping nearly north, through short undergrowth of shadscale.
40.05	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap 1/4 S 8 on N. half and S 17 on S. half, dig pits, 18 x 18 x 12 ins., N. & S. of post 3 ft. dist.; raise a mound of earth, 3½ ft. base, 1½ ft. high

Chains	
	N. of cor.
80.10	The cor. of secs. 7, 8, 17 & 18.
	Land, hilly draining NE.
	Soil, clay and gravelly; 4th rate,
	on hard clay sub-soil.
	No timber
	Undergrowth, short shadscale.
	Hilly land, 80.10 chs.
	N. 89° 54' W., on random line bet.
	secs. 7 & 18
40.00	Set temporary 1/4 sec. cor.
77.80	Intersect W. bdy. of the tp. 9 lks.
	N. of the cor. of secs. 7, 12, 13 & 18
	heretofore described.
	Thence I run
	S. 89° 58' E., on true line bet. secs.
	7 & 18.
	over hilly land draining NE.,
	through short undergrowth of
	shadscale.
11.30	Wash, 7 lks. wide, 2 ft. deep,
	course NE.
22.30	Wash, 7 lks. wide, 3 ft. deep,
	course N. 30° E.
37.80	Set an iron post, 3 ft. long, 1 in. in
	dia., 26 ins. in the ground for 1/4
	sec. cor., marked on brass cap
	1/4 S 7 on N. half and S 18 on S. half,
	dig pits 18 x 18 x 12 ins., E. & W. of
	post, 3 ft. dist., raise a mound
	of earth, 3 1/2 ft. base, 1 1/2 ft. high
	N. of cor.
39.05	Wash, 7 lks. wide, 2 ft. deep,
	course N. 25° E.
77.80	The cor. of secs. 7, 8, 17 & 18.
	Land, hilly with a general N.
	drain and slope.
	Soil, adobe clay and gravelly on

Chains

a hard clay sub-soil; 4th rate
No timber
Undergrowth, short shadscale.
Hilly land, 77.80 chs.

N. 0° 03' W., bet. secs. 7 & 8.
over hilly land draining NE.,
through short undergrowth of
shadscale.
8.75 Wash, 15 lks. wide, 7 ft. deep,
course N. 70° E.
40.00 Set an iron post, 3 ft. long, 1 in. in
dia., 26 ins. in the ground for 1/4
sec. cor., marked on brass cap
1/4 S 7 on W. half and S 8 on E. half,
dig pits, 18 x 18 x 12 ins., N. & S. of post
3 ft. dist.; raise a mound of earth
3½ ft. base, 1½ ft. high W. of cor.
53.00 Wash, 15 lks. wide, 3 ft. deep,
course NE.
80.00 Set an iron post, 3 ft. long, 2 ins.
in dia., 24 ins. in the ground for
cor. of secs. 5, 6, 7 and 8, marked
on brass cap

T 22 S S 6 in NW.,
R 22 E S 5 in NE.,
S 8 in SE. and
S 7 in SW. quadrant,

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, hilly with a general
NE. drain.
Soil, gravelly and hard clay on
hard clay sub-soil; 3rd rate
No timber
Undergrowth, short shadscale.
Hilly land 80.00 chs.

chains	
	May 18: At this sec. cor., I set off 19° 26' N., on the decl. arc; and at 11h. 56m. a.m. l.m.t., observe the sun on the meridian; the resulting lat is 38° 55'
	S. 89° 55' E., on random line bet. secs. 5 & 8.
40.00	Set temporary 1/4 sec. cor.
80.14	Intersect N. & S. line 3 lks. S. of the cor. of secs. 4, 5, 8 and 9. Thence I run N. 89° 56' W., on true line bet. secs. 5 & 8. Gradually descend over gently rolling land, through short undergrowth of shadscale and some scattering greasewood.
22.10	Wash, 10 lks. wide, 2 ft. deep, course S. 60° E.
40.07	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 5 on N. half and S 8 on S. half, dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., raise a mound of earth 3½ ft. base, 1½ ft. high N. of cor.
54.85	Wash, 7 lks. wide, 1 ft. deep, course NE.
66.10	Wash, 6 lks. wide, 3 ft. deep, course NE.
80.14	The cor. of secs. 5, 6, 7 and 8. Land, rolling with a general easterly drain. Soil, hard clay with a hard, dry clay sub-soil; 4th rate. No timber. Undergrowth short shadscale and

chains	
	some greasewood.
	N. 89° 58' W., on random line bet. secs. 6 & 7
40.00	Set temporary 1/4 sec. cor.
77.66	Intersect W. bdy. of the tp. at the cor. of secs. 1, 6, 7 and 12 heretofore described.
	Thence I run
	S. 89° 58' E., on true line, bet. secs. 6 & 7.
	Over rolling land draining N. through short undergrowth of shadscale and some scattering greasewood.
	Gradually ascend.
37.66	Set an iron post, 3 ft. long, 1 in. in dia., 26 ins. in the ground for 1/4 sec. cor., marked on brass cap, 1/4 S 6 on N. half and S 7 on S. half, dig pits, 18 x 18 x 12 ins., E. and W. of post, 3 ft. dist., raise a mound of earth, 3 1/2 ft. base, 1 1/2 ft. high N. of cor.
59.00	Top of ascent, brass N. & S.
	Gradually descend.
65.65	Wash, 10 lks. wide, 3 ft. deep, course N. 60° E.
68.40	Wash, 7 lks. wide, 2 ft. deep, course N. 60° E.
77.66	The cor. of secs. 5, 6, 7 and 8.
	Land, rolling with a general NE. drain.
	Soil, alkali clay with a hard clay sub-soil; 4th rate.
	No timber.
	Undergrowth short shadscale with some scattering grease-wood.

Chains

N. 0° 03' W., on random line
bet. secs. 5 and 6.
110.00 Set temporary 1/4 sec. cor.
86.55 Intersect N. bdy. of the tp. at the
cor. of secs. 5, 6, 31 and 32
heretofore described.
Thence I run
S. 0° 03' E., on true line bet. secs.
5 and 6.
Gradually descend over gently
rolling land, through short
undergrowth of shadscale and
some scattering greasewood.
115.55 Wash, 15 lks. wide, 10 ft. deep,
course N. 70° E.
116.55 Set an iron post, 3 ft. long, 1 in.
in dia., 26 ins. in the ground
for 1/4 sec. cor., marked on brass
cap 1/4 S 6 on W. half and S 5
on E. half, dig pits, 18 x 18 x 12
ins., N. & S. of post, 3 ft. dist.;
raise a mound of earth, 3 1/2
ft. base, 1 1/2 ft. high W. of cor.
149.40 Wash, 7 lks. wide, 5 ft. deep,
course S. 80° E. 6 chs. thence SE.
55.25 Wash, 15 lks. wide, 6 ft. deep,
course N. 70° E.
83.90 Wash, 10 lks. wide, 4 ft. deep,
course NE.
86.55 The cor. of secs. 5, 6, 7 & 8.
Land, rolling with a general east
drain.
Soil, adobe clay with a hard clay
sub-soil; 4th rate.
No timber.
Undergrowth, short shadscale with
some scattering greasewood.
May 18-1911.

General Description.

This township consists chiefly of mountainous and rolling hilly land and the soil ranges from rocky to a hard alkali clay and some gravelly. The mountainous portion which consists of practically the south half of the township is covered with a growth of short cedar and pinon trees of no commercial value and also a short undergrowth of shadscale about 1 ft. in height. The soil is rocky and a hard alkali clay with a sub-soil of hard clay & rock which all is of a volcanic formation and can be classed as 4th rate. This part of the tp. has a general drain to the north and east.

The north portion of the township consists of rolling hilly land cut by numerous washes and forms a part of a great barren waste or desert. It is generally covered with a short undergrowth of shadscale about 6 ins. in height and along washes where flood water flows some greasewood undergrowth is found. In many instances vegetation of no form exists. The soil is generally a blue adobe clay which is saturated with alkali and some gravelly and has for a sub-soil a hard clay. The soil of this part can be classed as 4th rate. The general drain of this part of the tp is. SE.

A spring of good water in sec. 22 is the only water in the tp. that can be used for any purpose. This spring has a flow of about 200 gallons

daily. Numerous alkali sups are found along washes but the water is unfit for any purpose. There are no mineral indications in the tp. Numerous locations have been made for oil in the tp., but I am unable to find any traces of indications. There are no settlers in this tp. The only purpose for which the tp can be used is for winter grazing of sheep.

Howard W Miller
U.S. Transitman

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W Miller, Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the subdivision of T. 22 S., R. 22 E. showing the respective capacities in which they acted:

, *Chainman.*

, *Chainman.*

, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

Jack Thomas, *Flagman.*

FINAL OATH OF ASSISTANTS.

~~We~~ I hereby certify that ~~we~~ I assisted Howard W Miller, United States ~~Deputy Surveyor~~ Transitman, in surveying all those parts or portions of the subdivision of T. 22 S., R. 22 E

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

, *Chainman.*

Jack Thomas, ~~*Chainman.*~~ *flagman*

, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

, *Flagman.*

Subscribed and sworn to before me this 8 day of May, 1911

SEAL

Howard W Miller
U. S. Transitman

6—161

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

[illegible] United States Deputy Surveyor [illegible] that, in pursuance of a contract received from [illegible] United States Surveyor General for [illegible] bearing date [illegible] 19 [illegible], I have well, faithfully, and truly, in my [illegible] and in strict conformity with the instructions furnished by the United States Surveyor General for [illegible] the Manual of Surveying Instructions, and the laws [illegible] [illegible] of the [illegible] [illegible] which are represented [illegible] [illegible] and I do further [illegible] [illegible] have been established and perpetuated in strict accordance [illegible] the Manual of Surveying Instructions, and the special written instructions of the United States Surveyor General for [illegible] and in the specific manner described in the field notes, and [illegible] [illegible] the original field notes of such survey.

United States Deputy Surveyor.

[illegible] and sworn to before me [illegible] 19 [illegible]

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL.

[illegible]

[illegible] of the survey of [illegible]

[illegible] [illegible] 19 [illegible] [illegible] and the necessary corrections and explanations made, the said field notes, [illegible] [illegible] are hereby approved.

United States Surveyor General.

[illegible] the field notes of the [illegible] survey [illegible] [illegible] from the original notes on file in this [illegible]

United States Surveyor General.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by Howard W. Miller Transitman, United States ~~Deputy Surveyor~~, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of the subdivision of T. 22 S., R. 22 E. of the S.L.B.&M. Utah, showing the respective capacities in which they acted:

, *Chainman.*

Earl Harvey, *Chainman.*

, *Moundman.*

Roscoe Hallett, *Moundman.*

, *Axman.*

, *Axman.*

, *Flagman.*

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted Howard W. Miller, United States ~~Deputy Surveyor,~~ Transitman in surveying all those parts or portions of the subdivision of T. 22 S., R. 22 E. of the Salt Lake Base and meridian, State of Utah, which are represented in the foregoing field notes as having been surveyed by him and under his direction; and that said survey has been in all respects, to the best of our knowledge and belief, well and faithfully surveyed, and the corner monuments established, according to the instructions furnished by the United States Surveyor General for Utah.

, *Chainman.*

Earl Harvey, *Chainman.*

Roscoe Hallett, *Moundman.*

, *Moundman.*

, *Axman.*

, *Axman.*

, *Flagman.*

Subscribed and sworn to before me this 18 day of May, 1911

SEAL

Howard W. Miller
U.S. Transitman

6—151

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

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

For final oath of transitman see book "Z1" T. 24 S., R. 26 E.

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

.....
United States Deputy Su

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

SEAL

.....
.....

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Salt Lake City, Utah, June 25,

The foregoing field notes of the survey of the subdivisional lines of Town
No.22 South, Range No. 22 East of the Salt Lake Base and Meridi
Utah,

executed by Howard W. Miller
under his ~~contract No.~~ special instructions, dated August 6, 1910, ~~19~~ , havin
critically examined, and the necessary corrections and explanations made, the said field notes, a
surveys they describe, are hereby approved.

Thomas Hall
United States Surveyor G

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

.....
United States Surveyor G

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