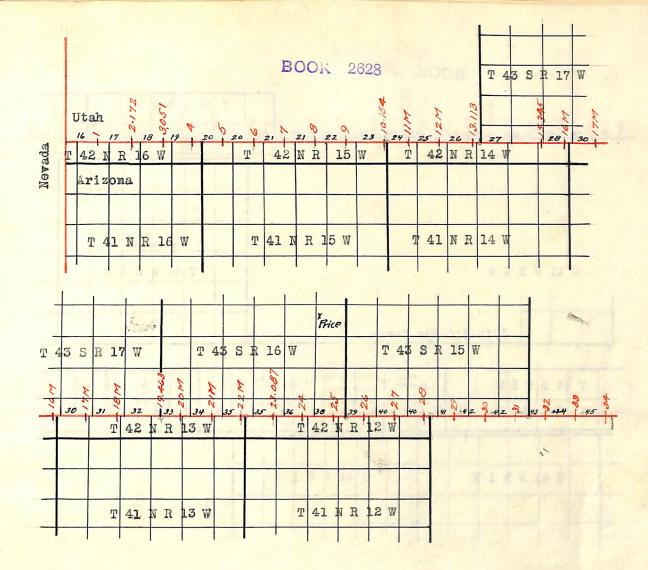


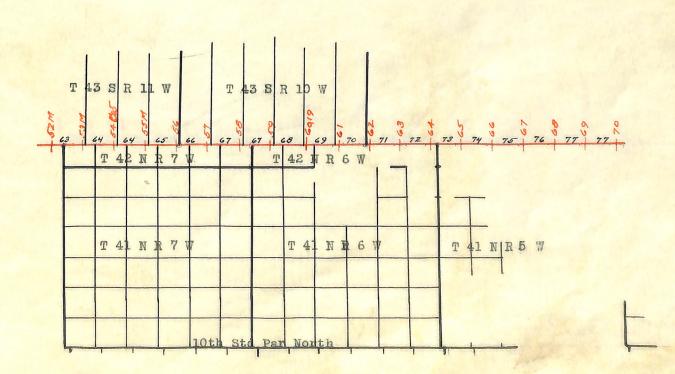
Property of The U.S.

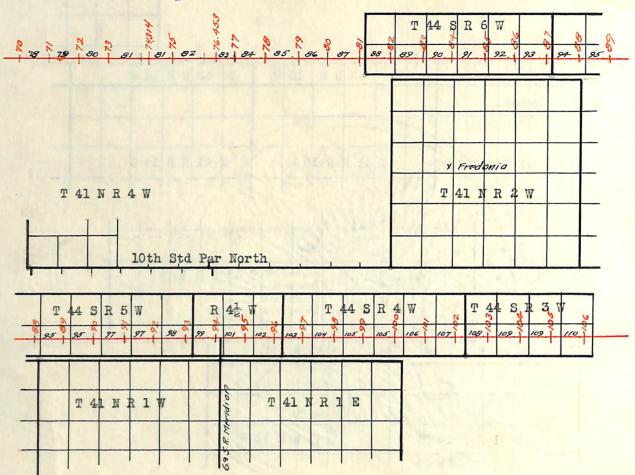
Rec'd. Oct. 8, 1902.

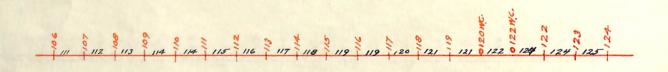
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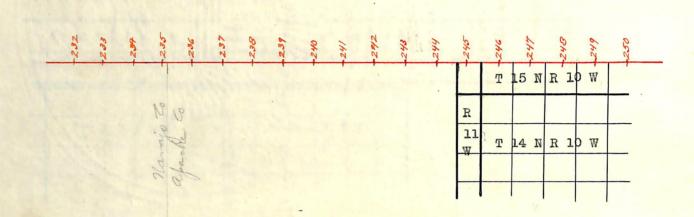


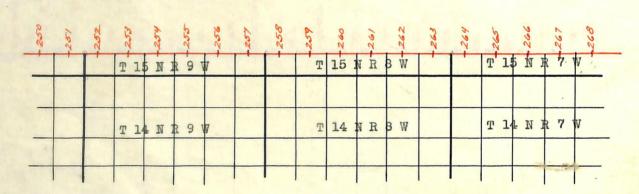


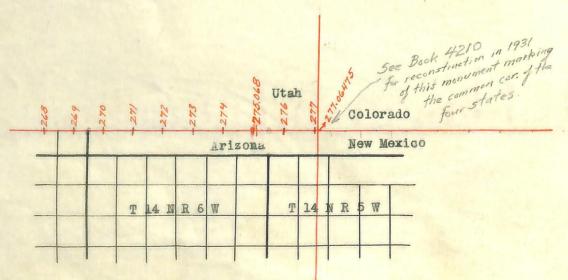












TRIPLICATE FIELD NOTES

Of the Survey of the

BOUNDARY LINE

BETWEEN THE

STATE OF UTAH AND TERRITORY OF ARIZONA

AS SURVEYED BY

HOWARD B. CARPENTER,

U. S. Surveyor and Astronomer

UNDER HIS CONTRACT DATED OCTOBER 13th, 1900.

Survey Commenced March 24, 1901. Survey Completed July 1, 1901.

1

ALTITUDE	Chains	1487 73030 4505	ALTERNA CHAINS .
		NAMES AND DUTIES	OF ASSISTANTS.
		Augustus MacConnel	Assistant Astronomer
		J. Frank Warner	Transit Man.
			Chainman.
		The same of the sa	Chainman.
			Chainman.
	a mily week		Chainman.
	Carl Sand	110.2.2.11	· 1000年1月1日 - 1000年1月 - 1
	- 1 DIE		Axeman.
0.1	TOMETH		Moundman.
	u To Pro	Bert Johanson	
	Manager Control	I. V. Warner	
1986	Cantral .	Murray H. Gilcrest	
mirks e	of the April	A. L. Lemmon	Flagman,
7710		Oscar McClellan	In charge of transportation and supplies.
		J. C. Crosby	Cook.
		M. W. Andrus	Teamster.
		Thomas Andrus	Teamster.
	1	G. W. Ashby	Packer.
		Geo. Averett	Packer.
		John T. Little	Packer,
		Bradford Shumway	Packer.
		Peeveek	Pah Ute Indian Guide.
		Tom Holliday	Navajo Indian Guide and Interpreter.
AST P	THE S		The same the same and the same
		and the second of the second	A CONTRACTOR OF THE PARTY OF TH
100 L 11			The state of the s

ALTITUDE CHAINS DESCRIPTION OF INSTRUMENTS. Astronomical observations were made with a wurdemann Zenith Telescope 25 inches focal length 2.1 inches aperture, loaned me by the Department of the Interior. The line was projected with a transit having six inch horizontal and five inch vertical limbs, graduated to 20' of arc and the horizontal limb having double verniers placed opposite to each other and reading to 30" of arc, which is also the least count of the vertical limb. This transit was made to order by Heller & Brightly of Philadelphia, Pa., especially for this line and is provided with Stadia wires placed at the ratio of 1 in 100. A leveling rod graduated to feet tenths and hundredths and reading by vernier on target to thousandths of a foot. Two steel tapes 1/4 inch wide, 66 feet or one chain in length graduated in links. One standard Chesterman steel tape for comparison and adjustment of measuring tapes. Two rod levels or plumb levels for guides in holding the rods vertical. Two Aneroid barometers one 2 3/4 inches diameter with thermometer, - one 2 inch diameter. Two chronometers No. 1051 Hiatt sidereal time and No. 333 Barraud mean time.

PRELIMINARY OATHS.

I, Augustus MacConnel do solemnly swear that I assistant
will well and faithfully perform the duties of Astronomer in the establishment of the 37th Parallel of North Latitude, between the 32nd, and 37th Meridian West from Washington, D. C. The same being the boundary line between the State of Utah and the Territory of Arizona.

(Signed) Augustus MacConnel.

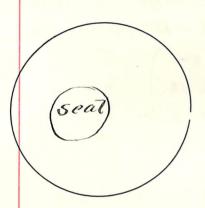
Asst. Astronomer.

Subscribed and sworn to before me this 20th day of March, 1901.

(Signed) Arthur F. Miles.

Clerk Dist. Court.

Washington Go. Mtah



I, J. Frank Warner do solemnly swear that I will well and faithfully perform the duties of Transitman to the best of my ability in the survey of the Boundary line between the State of Utah and the Territory of Arizona.

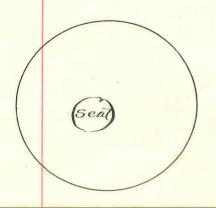
(Signed) J. Frank Warner.
Transitman.

Subscribed and sworn to before me this 20th day of March, 1901.

(Signed) Arthur F. Miles.

Clerk Dist. Court.

Clerk Dist. Court. Washing for Co. Mah.



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PRELIMINARY OATHS.

We, Rex G. Schnitger, Karl A. Snyder, E. P. Blanchard, and H. W. Gilbert 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 distance 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 the instructions given us in the survey of the Boundary Line between the State of Utah and the Territory of Arizona.

Rex G. Schnitger. Karl A. Snyder. E. P. Blanchard. H. W. Gilbert.

Chainman.

Chainman.

Chainman.

Chainman.

Subscribed and sworn to before me this 20th day of March, 1901.

Glerk Dist. Court.

Washington Go. Mah.

And the contract of the telephone of the contract of the contr

PRELIMINARY OATHS.

I, A. J. Smoots do solemnly swear that I will well and truly perform the duties of Axeman according to instructions given me, to the best of my skill and ability, in the survey of the Boundary Line between the State of Utah and the Territory of Arizona.

(Agned) A. J. Smoots. Axeman.

Subscribed and sworn to before me this 20th day of March, 1901.

(figned) Arthur F. Miles.

Clerk Dist. Court.

Washington Co. Whah

We, Bert Johanson and M. A. Shumway do solemnly swear that we will well and faithfully perform the duties of Moundman in the establishment of corners according to the instructions given us in the survey of the Boundary Line between the State of Utah and the Territory of Arizona.

(Ryned) (Bert Johanson.
M. A. Shumway.

Moundman.

Moundman.

Subscribed and sworn to before me this 20th day of March, 1901.

(Aigned) Arthur F. Miles.

Clerk Dist. Court.

Washington Cov. Mah.

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PRELIMINARY OATHS.

We, Murray H. Gilcrest and A. L. Lemmon do solemnly swear that we will well and truly perform the duties of Flagman, according to instructions given us, to the best of our skill and ability, in the survey of the Boundary Line between the State of Utah and the Territory of Arizona.

(Signed) { Murray H. Gilcrest. Alfred L. Lemmon.

Flagman.

Flagman.

Subscribed and sworn to before me this 20th day of March, 1901.

(Agred) Arthur F. Miles.

Clerk Dist. Court.
Washington Go. Made

I, I. V. Warner do solemnly swear that I will well and faithfully execute the duties of Rodman to the best of my skill and ability, according to the instructions given me, in the survey of the Boundary Line between the State of Utah and the Territory of Arizona.

(Signed) I. V. Warner.

Rodman.

Subscribed and sworn to before me this 20th day of March, 1901.

(ligned) Arthur F. Miles.

Clerk Dist. Court. Washington Go Mah.

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A Photo Land Annual

BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA. ALTITUDE CHAINS Pursuant to instructions received from the Honorable the Acting Commissioner of the General Land Office W. A. Richards, - bearing date Washington, D. C. October 20th, 1900. I proceeded to St. George, Utah, arriving there March 18th. 1901. The Wheeler Monument placed in the town of St. George in 1872, the record of the latitude and longitude of which was furnished me by the Hon. Commissioner, has entirely disappeared and I was unable to find any trace of it. Having learned from people living on the Virgin river near where it is crossed by the line between Nevada and Arizona, that old corners on that line were still in existence and that the sandstone shaft erected by Mr. James in 1870 to mark the 37th parallel was still standing. I therefore perfected my organization of a complete surveying and astronomical corps and moved to the Beaver Dam wash. March 24th I retraced a portion of the line between Nevada and Arizona as established by Isaac P. James in 1870. Beginning at a cottonwood post about 3 ins. square, much decayed, the marks on which were illegible, standing on the south side of the old road from St George to SZ Joseph about 3 miles west of the Beaver Dam Wash. By the side of this old post there stands another post about two inches square evidently placed there at a later date; on the newer post are the following marks: on the east side 'Arizona', on the west 'Neva-

There were some faint traces of a mound, no pits

which I took to be 303.

da', and on the south, rather indistinct figures.

ALTITUDE	CHAINS	
		visible.
in the A		Referring to a copy of the field notes of the James
	.11.	line, furnished me by the Hon. Commissioner I find
		that Mr. James set a post just south of this road
		at the 60 chain mark on his 303rd mile but the notes
		do not state what marks if any, were placed upon it.
		Assuming this post to be at the 60 chain mark on the
		303rd mile, I ran north retracing the line between
		Nevada and Arizona, as follows:
	1.15	Old road from St. George to St. Joseph bears N.E. and
	5.7	S.W. not now in use.
	21,30	Wash, course S.W.
	37,50	Top of low ridge bears N.E. and S.W.
	60.00	After a careful search, I failed to find any trace of
		the 302nd mile porher,
Aprileo h		The state of the s
A constant		North retracing the 302nd mile.
	20,50	Wash, course S.W.
	80,00	After a careful search, I failed to find any trace
The same	A State of	of the 301st mile corner.
		North retracing the 301st. mile.
	62.30	Wash, course S. W.
	80.40	Old cottonwood post, about 3 ins, square, 6 lks, east,
	00,40	Mounds and pits still visible, post much weathered,
		marks barely le gible. Nevada on the west. Arizona
		on the east, 300 M. on the south. As this line was
		run from the north, the number of the mile should have
August 1		been on the north side.
		Course back to last collect Louist S. O O W.
		The state of the s
		North retracing the 200th mile. I set instrument over this corner and ran north re-
		tracing the 200th mile over rolling ground sloping W.

ALTITUDE CHAINS Old mound on this line - Old cottonwood post about 3 79,60 ins, square rotted off, lying on the mound, some marks still visible but illegible. Pits have disappeared. I take this to be the 299th mile corner, North retracing the 299th mile. A red sandstone shaft on this line. This shaft is 24.03 6 1/2 feet long by 16 ins. broad by 12 ins. thick. set about 12 ins, in the ground and surrounded by a mound of stone about 4 ft. high (See Photo Page 30/) This shaft is dressed triangular for about 12 ins. down from the top and marked with letters 1 1/2 ins. square graven in the stone, UTAH on N.E. ARIZONA on the S.E. NEVADA and 37 N.L. and 37 L.W. on the west faces. A round yellow limestone hill bears west about 20 chains, a small gulch heads about 2 chains west and runs south, and there is a flat top hill with a ledge of limestone along its crest to the east. This corner agrees with the description furnished by the Hon, Commissioner, and I believe it stands in its original position as established by Mr. James in 1870. I fail to find any closing corners for sub-divisions in Nevada said to have been set on this line. March 24th, 1901. I establish an astronomical station here and take observations for latitude on the nights of March 25th, 26th and 27th, using the Würdemann Zenith Telescope No. 8 loaned me by the Department of the Interior, This instrument we mounted on an iron stand, which is the frustum of a cone, set 2 1/2 ft. in the ground, hollow, and filled with sand,

We make the latitude of this station (which is 1.04

chs, south of the James monument) 37° 01' 12.1"

14

ALTITUDE	CHAINS	
	With some	north lattitude. This shows the James Monument to
	don them	stand 1' 12.1" = 110.47 chs. + 1.04 = 111.51 chs.
		too far north. Therefore, pursuant to instructions
		I destroy the James corner and proceed to establish
		the initial corner at the intersection of the 37th
		Parallel with the James line. I carefully adjust
		the Heller and Brightly transit and at a point near
	THE PARTY	and directly north of the James monument at 6h,59m.P.
	logging-	M. l.m.t. March 27th 1901, I observe Polarissat western
	18.1 BAO	elongation in accordance with instructions in the
		manual and marked the line thus determined on a plug
		driven in the ground north of my station.
	Maria de	March 28th, at 7h, 15m, A.M. I lay off the azimuth of
		Polaris 1 31.6' to the east and mark the true
		meridian thus determined on a plug driven in the ground
		north of my station.
		The magnetic bearing of the said true meridian is
		N. 15° 51' W. which reduced by the table page 100 of
		the manual gives the mean declination 15° 48' E.
		I project this meridian to the south with fore and
		back sight taking double sights each way and reversing
		the telescope at each sight,
	24.03	Old 299th mile corner on the James line.
	103,63	Old 300th mile corner of the James line.
		Thence S. 0° 1' W. following the James line 7.88
		chains, making
	111.51	South of the James Monument which is 1.04 chs. north
		of the observation station at latitude 37° 01' 12.1"-
		110.47 + 1.04 = 111.51 chs.
		Intersect the 37th parallel of north latitude 7.88
		chs, south of the James 300th mile corner.
		At the intersection of the east boundary line of the
		State of Nevada as established by Isaac P. James in
		1870 with the 37th degree of north latitude as
		established by our astronomical observations.

ALTITUDE

CHAINS

March 28th 1901 at 6h.55m, P.M. l.m.t. I observe Polaris at western elongation and mark a point in the line thus found on a plug driven in the ground 16 chs. north of my station.

March 28th, 1901.

March 29th, 1901 at 8h.A.M. I lay off the azimuth of Polaris 1° 31.6' to the east and mark the true meridian thus found on a plug driven in the ground 16chs. north of my station. The magnetic bearing of the said true meridian is N. 15° 51' W. which reduced by the table page 100 of the manual gives mean declination 15° 48' east.

I now lay off from the said true meridian an angle from the north to the east of 90° 00', for the tangent to the parallel.

In each of these observations and the subsequent turning of angles, the mean of four sights was taken,
reversing the instrument at each sight.

2560

At the intersection of the 37th parallel north latitude with the James line I set a red sandstone shaft 6 ft. long 16 ins. broad and 12 ins. thick, dressed 8 ins. down from the top. diagonally in the ground, for the Initial Monument, marked with letters 1 1/2 ins. square deeply graven in the stone NEVADA on the N. W. UTAH on the N. E. ARIZONA on the S. E. and INTL. MONT. 37 N. L. 1901 on the S. W. faces. Raised a mound of stone 5 1/2 ft. base 2 ft. high around the shaft and dug pits 36x36x18 ins. N. E. and S. of corner 6 ft. dist. No trees within limits. A mountain peak on the north end of range about 20 miles distant bears N. 83° 37' W. South twin peak on same range bears S. 69° 10' W. Highest peak in sight south of Virgin River bears

S. 7° 181 W.

ALTITUDE	Chains	
	expedit l	South end of table land about 1/2 mile east bears
	hog at	N. 81 24' E.
here	ng mak i	Barometer reads 2560 ft, above sea level,
		Thermometer 68° Fahr.
		This corner stands near the head of little dry
		gulch, course S. W. land sloping gently west, rolling
	arasi are	and sandy. The S. W. corner of a table land about
Part gall		125 ft, higher than the corner lies a little north
Total o		of east about 1/2 mile distant.
nare	BOU SELVE	Management of the second secon
		lst Mile.
	Marine.	Ran east on the tangent to the parallel taking double
		back and fore sights, reversing the instrument at
		each sight. This method of producing the tangent was
		adhered to during the whole survey of this boundanry
		line.
		Ascend over rolling land.
, mad	15.75	Top of divide about 75 ft. above the corner bears
		N. and S. Descend steep bank.
-LINE	21.75	Dry ravine, course S. E. about 100 ft, below divide.
	Section 10	Ascend.
	43,60	Top of small round butte about 50 ft. high, S. E.
, 1949		cor. of table land bears N. E. about 10 chs. dist.
	45.30	Bottom of gulch, course S. E. Ascend.
	57.76	Top of spur, slope S. E. Descend.
	59,00	Dry gulch, course S.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		the mean of which is
2500	80.00	North .76 ofalk. from the tangent.
		set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for the 1st mile cor.
		A brass cap on top of the pipe has raised letters,
		UTAH on N. ARIZ. on S. and L.M. stamped in the
	Teal Leading	demodr,

	ALTITUDE	Chains	A
	- 19		No bearing trees within limits. Dug pitts 36x36x18
			ins. N. S. E. and W. of cor. 6 ft. dist. and raised a
			mound of earth 5 ft, base 2 ft, high around the post.
	11.		Land rolling and broken,
			Soil sandy and gravelly, 4th rate,
			Vegetation scanty, grass, greasewood, and a few yucca
			dragonis or Spanish bayonet trees.
			Barometer reads 2500 ft.
			Thermometer 65°.
1200			2nd Mile.
			S. 89° 59' E. on the tangent to the parallel.
		La layer	Descend along the S. E. slope over broken gravelly
			land.
		35,50	Bottom of dry gulch about 30 ft, deep, course S. E.
			ascend, enter bad lands,
		45.00	Top of spur, slope S. E. about 50 ft. above gulch.
		FF 50	Descend.
The state of		F0	Dry gulch, course S. E. 50 ft, deep. Ascend.
		50.00	Top of spur slope S. E. Descend.
			Dry bed of creek 1 chain wide 150 ft. below last cor.
		THE STALL OF	Course S. E. Ascend over bad land hills
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. By 1st set 79.96 chs.
	1.70	80.00	By 2nd set 80.04 chs. The mean of which is
			On steep west slope of bad hand hill, impracticable
			Land broken
			Land broken bad lands.
			Soil alkali and gypsum, 4th rate.
			Vegetation, very scanty, a little grass, greasewood,
			and soap weed.
			Barometer 2300 ft.
			Thermometer 60°.
			And the date that the tree has been also done the same than the

	ALTITUDE	CHAINS	Attended Charles II was a second of the seco
			3rd Mile.
			S. 89° 59' E. on tangent to the parallel.
			Ascend over bad land hill.
	2330	13,76	North 3 1/2 lks. from the tangent set an iron pipe 2
			ins, diam, 5 ft, long with flanges at the bottom
			3 ft. in the ground for 2nd mile cor. A brass cap
			on top of the pipe has raised letters UTAH on N. ARIZ.
			on the S. and 2.172 M. stamped in the center. Dug
			pits 36x36x18 ins. N. S. E. and W. of the Cor. 6
			ft. distant and raised a mound of earth 5 ft. base
		S San Richard	and 2 ft. high around the post. This corner stands
			on the north Slope of a bad land hill overlooking
			the Beaver Dam wash. No trees within limits.
		Caleran .	Descend steep north slope.
		22.76	Dry gulch, course S. E. Descend gradually.
		39.76	S. E. end of spur sloping from N. W. Enter creek
			bottom about 150 ft. below last cor. Bears N. W.
		Andani.	and S. W.
		52,76	A channel of Beaver Dam wash. 50 lks. wide, dry,
		71.00	Course S. Main Channel of Beaver Dam Wash, sollo wide dry courses. Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
			by 1st set 80.02 chs. By 2nd set 79.98 chs.
			The mean of which is.
	2200	80.00	End of 3rd mile comes in another channel of Beaver the Cor:
			Dam wash. Impracticable to establish, This wash
	THE		is 30 lks. wide, dry, course S.
			Land rolling and creek bottom.
			Soil sandy and gravelly, 3rd and 4th rate.
			Vegetation, grass, sage and willow in creek bottom.
			Barometer 2200 ft.
1			Thermometer 58°.
			March 29th, 1901.

	ALTITUDE	CHAINS	Auritina Citaisa
		Tyrin , ja	4th Mile.
		1 . 10	Test instruments, tape, stadia wires and telemeter
			rod, find all in adjustment.
		7 7 1	S. 89° 58' E. on tangent to the parallel.
	2215	4.10	Ascend over rolling hills. North 11ks. From the tangent. Set a lava stone 30x16-x16 ins. 20 ins. in the ground
		to the	for 3rd mile cor. Marked 3.051 M. on the W. UTAH
			on the N. 37 N.L. on the E. and ARIZ. on the S. Dug
			pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft.
			distant and raised a mound of earth and stone 5 1/2
	111		ft, base and 2 1/2 ft, high east of cor. This cor.
	· ons	NO LINE	stands on east bank of Beaver Dam wash about 15 ft.
	throng	nd Abhan 1	high. No bearing trees within limits.
		Levin e	Ascend.
		29,00	Top of bench about 100 ft. above wash, course N.
6	10.177	the arrist	and S. Ascend.
	at _y "1	69,00	Top of second bench about 180 ft. above wash course N.
	- Tr	t no geo	and S. Thence along gentle south slope.
	. 20 7	, 83 MK	Difference between measurements of 80 chs. by two
	nite 140	committee	sets of chainmen is 6 lks. Position of middle point
		gotte, f	by 1st set 80.03 chs. By 2nd set 79.97 chs.
	10/19	history.	The mean of which is,
	2500	80,00	End of 4th mile. North 12 lks. from tangent set
	-13	of Aggadie	an iron pipe 2, ins. diam. 5 ft. long with flanges at
	er son		the bottom 3 ft. in the ground for 4th mile corner.
		LOHME T	A brass cap on top of the pipe has raised letters
	M7		UTAH on N. ARIZ. on S. and 4 M. stamped in the
			center. Dug pits 36x36x18 insN. S. E. and W. of
			cor. 6 ft. dist. and raised a mound of earth 5 ft.
			base 2 ft. high around the post. This cor. stands
		1 1 1 1 1 1	on a plain sloping gently to the S. W.
			Land rolling.
			Soil gravelly and sandy, 3rd rate.
			Vegetation, grass, greasewood and cactus.
			Barometer 2500 ft. Thermometer 60°.

ALTITUDE	Chains	
		5th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Along gentle south slope.
	1.00	Descend, course N. and S.
	9,00	Bottom of dry gulch 60 ft. deep, course S. Ascend.
	14.00	Top of spur slope S. Descend.
	17.75	Bottom of dry gulch, course S. Ascend.
	30.00	Top of spur slope S. Descend.
	53,00	Bottom of dry gulch, course S. Ascend.
	65.00	Top of spur slope S. Descend.
	70.00	Bottom of wash, course S. W. Ascend.
	, 0 , 0 0	Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is.
2520	80.00	North 19 lks. from the tangent set an iron pipe 2 ins.
Vaca	00,00	diam. 5 ft. long with flanges at the bottom 3 ft. in
		the ground for 5th mile cor. A brass cap on top
		of pipe has raised letters, UTAH on N. ARIZ. on S.
		and 5 m. stamped in center. Dug pits 36x36x18 ins.
		N. S. E. and W. of cor. 6 ft. dist. and raised
		a mound of earth 5 ft. base 2 ft. high around the
		post.
		Land sloping south and cut by gulches about 30 ft.
		deep.
		Soil gravelly and broken limestone, 4th rate.
		Vegetation greasewood, cactus and yucca.
		Barometer 2520 ft. Thermometer 62°
		DATE OFFICE AND THE COURSE OF
		6th Mile.
		S. 89 57' E. on tangent to the parallel.
		along gentle south slope.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 2 lks. Position of middle post

	ALTITUDE	CHAINS	BALLED RODELLA
			by 1st set 80.01 chs. By 2nd set 79.99 chs.
			The mean of which is.
	2560	80,00	North 271ks. from the tangent set a limestone
			30x15x6 ins. 20 ins. in the ground for the 6th mile
			cor. marked UTAH on N. 37 N. L. on E. ARIZ. on S.
			and 6 M. on the W. faces. Raised a mound of stone
			5 1/2 ft. base 2 1/2 ft. high east of cor. Pits
			impracticable.
			Land sloping gently S. W.
			Soil gravelly, 4th rate.
	of I		Vegetation, greasewood, cactus and yucca,
			Barometer 2560 ft. Thermometer 62°.
			Been alread alread alread recent recent dates dates dates dates dates dates.
			7th Mile.
			S. 89° 56' E. on tangent to the parallel.
			Along gentle S. W. slope.
		28,50	Old emigrant road bears N. 63 E. and S. 63 W.
			Difference between two measurements of 80 chs. by two
			sets of chainmen is nothing. The mean is.
	2620	80,00	North 37 lks. from the tangent set a granite stone
		1	30x12x9 ins. 20 ins. in the ground for the 7th mile
			cor. Marked UTAH on N. 37 N.L. on E. ARIZ. on S. and
			7tM. on the W. faces. Raised a mound of stone
			5 1/2 ft. base 21/2 ft. high east of cor.
			Pits impracticable.
		1000	Land sloping gently south.
			Soil gravelly and rocky, 4th rate.
			Vegetation, greasewood, cactus and yucca.
			Barometer 2620 ft. Thermometer 63 .
		9014	
			8th Mile.
	-		S. 89° 55' E. on tangent to the parallel.
		100	Ascend gradually over gentle S. W. Slope.
		50,00	Dry gulch, course S.
The second second		51.12	Wagon road from St. George to Bunkerville, course
-	Committee Properties and Co.		N. MIHI D. C.

ALTITUDE	CHAINS	
	65.00	Dry gulch course S. W.
	74.00	Dry gulch course S. W.
	Arec Shek	Difference between measurements of 89chs, by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
2750	80,00	North 49 lks. from the tangent set a limestone
2100		33x12x12 ins. 22 ins. in the ground for the 8th
		mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on the S. and 8 M. on the W. faces. Raised
		a mound of stone 5 1/2 ft, base 2 1/2 ft, high
		east of cor. Pits impracticable.
		Land sloping south.
		Soil gravelly and rocky, 4th rate.
		Maria San Carlo Ca
		Vegetation, greasewood, cactus and yucca. Barometer 2760. Thermometer 63°
		Control of the Contro
		This cor. stands on the plain near the foot of the
		Beaver Dam range.
Acces		9th Mile.
		AND APPROXIMATION OF THE PROPERTY OF THE PROPE
		S. 89° 55' E. on tangent to the parallel.
		Ascend gradually over S. W. slope.
	2.00	Dry gulch, course S. W.
	17.75	Wagon road bears N. E. and S. W.
	37,00	Foot of Beaver Dam Mountains bears N. and S. Ascend.
		From here use stadia measurements. The stadia
		wires are placed at the proportion of 1 to 100.
		The distance C = focal length of lens, which for this
		instrument is 1.15 ft, when telescope is level
		and proportional when telescope is elevated or
		depressed. See explanation in report. Angles of
		elevation marked + and of depression Von
	M	Geldern's table of constants used for computing
		horizontal distance.

	ALTITUDE	Chains	fort
		, "I	Rod graduated in tenths and hundredths of a foot and
		r 1	by tangent ver reads to thousandths of a foot.
			Rod held vertically as indicated by rod level,
			Vertical angle 23°+ Rod reads 8.71 ft. multiplied
			by Constant for 100 ft. for angle 23° = 84.73 x
			8.71 = 737.90 + C. = 1.05 = 738.95 ft. = 11.20 chs.+
			37.00 chs. = 48.20 chs.
		48,20	Stadia point, thence by steel tape.
		50,95	Point on rocks, thence by stadia. Angle 8° 30'+
			Rod 10.15 ft. Constant 97.82 x 10.15 = 992.87 +
			C.=1.14 ft.= 994 ft.= 15.05 chs.+ 50.95 chs.=
			66,00 chs,
	3350	66,00	Top of rocky spur slopes south. Descend.
			Angle 5° - Rod 6.60 ft. Constant 99.24 x 6.60 ft =
			654.98 ft.+c. = 1.14 = 656.12 ft. = 9.94 chs.+
			$66.00 \frac{chs}{1} = 75.94 \text{ chs.}$
		75.94	Thence by steel tape.
			Difference between measurements of 43.81 chs. by two
			sets of chainmen ls 4 lks. Position of middle point
			by 1st set 43.83 chs. By 2nd set 43.79 chs.
			The mean of which is. 43.81 chs. + stadia measure-
			ment 36,19 80,00 chs.
	3100	80,00	North 62 lks. from the tangent set a limestone
			36x9x9 ins. on solid bed rock in stone mound for
			9th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 9 M. on W. faces. Raised a mound of
			stone 5 1/2 ft. base 2 1/2 ft. high east of the cor.
			Pits impracticable.
			Land mountainous, rough and broken.
			Soil rocky, 4th rate.
			Vegetation, grass and sage.
-			Barometer 3100 ft. Thermometer 60°.
			March 30th 1901.
			Other States offices prices offices display spines of the display of the prices of the states of the
			10th Mile.
-			Test the tape lines with the standard and find them

ALTITUDE	Chains	•
	egie ie	correct. I examine the levels, collimation, and
		stadia wires of the transit and find them all in
		adjustment.
		S. 89° 54' E. on tangent to the parallel.
		Descend over broken rocks.
7 4030	12.00	Deep ravine, course South. Ascend along S. slope.
	38,00	Top of spur, slopes S. Descend.
	50,00	Dry gulch, course south. Ascend.
	54.14	Top of spur, slopes S. Descend.
	56,00	Dry ravine, course S. Ascend rocky slope.
	71.22	
		ment, Angle 16° - Rod 8.40 double = 1680 by Constant
		$92.40 \times 1680 = 1552.32 + C. = 1.10 = 1553.42 \text{ ft.} = 1.00 = 1.$
		23.53 chs. + 71.22 chs. = 94.75 chs.
	80.00	Falls on steep rocky north slope. End of 10th mile.
		Impracticable to establish cor.
		Land mountainous, rough and broken.
		Soil rocky, 4th rate.
		Vegetation very scant, a little grass and moss.
		one was place alone and gather dates and an other new new new new
	in mp	lith Mile.
		S. 89° 53' E. on tangent to the parallel,
		Over very rough, broken ground.
3640	14.75	North 79 lks. from the tangent set a limestone
		30x10x10 ins. on solid rock in a mound of stone for
		the 10th mile cor. Marked UTAH on N. 37 N.L. on E.
		ARIZ. on S. and 10. M. on the W. faces. Raised
		a mound of stone 5 1/2 ft. base 2 1/2 ft high east
		of cor. Pits impracticable.
		Barometer 3640. Thermometer 58°.
		Thence by stadia measurement across canon Angle 9+
		Rod. 12.90 ft. double = 2580 ft Constant 97.55 x 2580 =
		25 16,79 ft. + C = 1.13 = 2517.92 ft. = 38.15 chs. +
		14.75 chs. = 59.90 chs.
	20.75	Bottom of canon 300 ft. deep, course N. Ascend.

	ALTITUDE	CHAINS		
	à	24.75	Top of spur, slope N. Descend.	
	3000	34,00	Bottom of rocky canon, course N.W. about 600 ft.	
			below cor. A scend.	
		52,90	Stadia point. Thence measurement by tape. Ascend.	
	4200	62,50	Top of high spur, bears N. and S. Descend.	
ì	-		Difference between measurements of 27.10 chs. by two	
		-	sets of chainmen is 2 lks. Position of middle point	
			by 1st set 27.11 chs. By 2nd set 27.09 chs.	
			The mean of which is 27.10 chs. + 52.90 chs. =	
	4020	80.00	North 92 lks. from the tangent set a limestone 31x	
-			12x10 ins. 21 ins. in the ground for 11th mile cor.	
			Marked UTAH on N. 37 N. L. on E. ARIZ. on S. and	
			11 M. on the W. faces. Raised a mound of stone 5 1/2	
			ft. base 2 1/2 ft. high east of cor. Pits im-	
			practicable.	
			Land mountainous, very rough and broken.	
			Soil rocky, 4th rate.	
			Vegetation: grass and sage.	
			Barometer 4020 ft. Thermometer 65°.	
			man and are seen that the contains and t	
			lath Mile.	
			S. 89° 53' E. on tangent to the parallel.	
			Descend along north slope.	
		2,00	Dry gulch, course N. Ascend along north slope.	
		26.11	Point on rocky spur, slope north. Thence by stadia	
			measurement Angle 12° + Rod 7.20 double = 1440 ft.	
			Constant 95.68 x 1440 = 1377.79 ft. + C = 1.12/=	
			1378.91 ft. = 20.89 chs. + 26.11 chs. = 47.00 chs.	
		47,00	Stadia point on rocks. Thence by stadia measurement Angle 19°+ Rod 11.70 ft. Constant 89.40 x 1170 ft.	
			1045.98 ft. + C = 1.08 = 1047.06 ft. = 15.86 chs. +	
	5020	62,86	47.00 chs. = 62.86 chs. Top of ridge, summit of Beaver Dam range, bears N. E.	
	0000		and S. W. Descend along south slope. Thence by	
			tape measurement.	
		72.00	Hollow, drains S. E. Thence along S. W. slope.	
		and the second		1

	ALTITUDE	Chains	
			Difference between measurements of 43,25 chs. by two
		MON A	sets of chainmen is 4 lks. Position of middle point
			by 1st set 43.27. By 2nd set 43.23 chs.
		The second	The mean of which is 43.25 chs. + stadia measurement
			36.75 chs. =
	5000	80,00	North 110 lks. from the tangent set a limestone
			30x16x8 ins. on bed rock for 12th mile cor. Marked
			UTAH on N. 37 N.L. on E. ARIZ. on S. and 12 M. on
			W. faces in a stone mound. Raised a mound of stone
			5 1/2 ft. base 2 1/2 ft. high east of cor. Pits
			impracticable.
		100 1000	Land mountainous, rough and broken.
			Soil 4th rate, very rocky.
			Vegetation: grass and sage, scattering cedar and pinon,
			Barometer 5000 ft. Thermometer 70°.
	ji.		13th Mile.
			S. 89° 52' E. on tangent to the parallel.
ar .			Descend S. E. slope over broken rocks.
		8.50	Bottom of dry ravine, course S. about 300 ft. deep.
		Mana ?	ascend.
		12,60	Top of spur slops S. about 200 ft. above bottom of
			ravine. Descend.
		34.40	Bottom of dry ravine, course S. 250 ft. deep.
			Ascend.
		43.00	Top of spur slopes S. 100 ft. above bottom of ravine.
			Descend.
			Difference between measurements of 53.03 chs. by two
			sets of chainmen is 6 lks. Position of middle point
			by 1st set 53.06 chs. By 2nd set 53.00 chs.
			The mean of which is.
		53.03	Brow of cliffs, bear N. E. and S. W. thence by
			stadia measurement. Descend angle 19 - Rod 12.95/7
			double = 2590 ft. constant 89.40 x 2590 ft =
			2316.46 + C = 1.08 = 2318.54 ft. = 35.11 chs + 53.03
			aha - 88 14 aha

DOOT	DIRECT MILLS	DIT WHILL THE OTHER OF OTHER HIM THE THE THE OTHER OTHER OTHER
ALTITUDE	CHAINS	ALTERDA CINCIN
	80.00	Comes on cliff sloping S. Impracticable to establish
	- Free	cor.
*11-1	Ti Cuo	Land mountainous, very rocky and percipitious.
		Soil rocky, 4th rate.
	mitog o	Vegetation: grass and sage.
	inter oil	
100	J- *- 100	l4th Mile.
F	I no pa	S. 89° 53' E. on tangent to the parallel.
	. Trans	Descend.
-	8,00	Bottom of gulch, course from N. W. to S. Ascend.
	8.14	Stadia point. Thence by tape measurement.
4200	9,08	North 132 lks. from the tangent set a granite stone
Limon	Lord to gray	32x12x10 ins. 22 ins. in the ground for the 13th
1 1	I need t	mile cor. Marked UTAH on N. 37 N.L. on E. ARIZ.
	Line To	on S. and 13.113 M. on W. faces. Raised a mound of
	A G HIVE	stone 5 1/2 ft. base 2 1/2 ft. high east of cor.
		Pits impracticable. Barom 4200. Therm 60°.
		March 13th, 1901.
		Compared tape lines with the standard. Tested levels
		collimation and stadia wires of instrument and find
		all correct.
		Ascend along foot of rocky south slope. 15 chs. top
	15,00	Top of spun slags s. Descend.
-	19.00	Dry gulch, course S. Ascend along steep S. W. slope.
	27,73	On spur slopes S. Stadia measurement from this point.
		Angle 17° + Rod 8.665 double = 1733 ft. Constant
		91.45 x 1733 = 1584.83 + C. = 1.10 = 1585.93 ft. =
		24.03 chs. + 27.73 chs. = 51.76 chs.
	51.76	Stadia point. Thence by tape measurement.
	52.71	On sharp rocky spur sloping south. From this
		point the line runs over a country very much broken.
		Many of the rocky points are inaccessable and too far
		apart for measurement by stadia and impossible to
		measure by tape, therefore I run a base line

ALTITUDE CHAINS

down the ridge or spur. First I set a flag on the tangent line on a high bluff across a very deep canon. From this line I turn an angle to the south of 78° 26' and run a base line, measuring the same with great care 33,49 chs. Impracticable to get a longer base owing to the roughness of the country, Set instrument at south end of base, back sight on north end and measure angle to the flag on high bluff at east end of tangent across the canon. I repeat this angle four times with telescope reversed each time and find the angle to be 87° 12'. I now leave flags at each end of base line and proceed to the flag at east end of tangent across the canon. Take back sight on flag on north end of base line and measure angle to flag at south end of base line. After careful repetitions I find this angle to be

Then, Sin. 14°22':Sin. 87° 12'::33.49 chs.
a.c. log. Sin. 14° 22' 0.605327
log. Sin. 87° 12' 9.999481
log. 33°.49 chs. 1.524915
2.129723 = 134.81 chs.

52.71 cho 134.81 ch. 187.52 = 2 miles and 27.52 chs.

80.00 Inaccessable. End of 14th mile.

Land mountainous, very rough and broken.

Soil rocky, 4th rate.

Vegetation: grass and sage.

	A	, Company	Annual Canada
	ALTITUDE	CHAINS	l5th Mile.
	2800	68,50	S.89° 17' E. on tang to parallel, At about this point bottom of deep dry canon, course
	2000	00,00	The formation of the state of t
			South. Ascend.
		80,00	TO THE RESERVE THE REPORT OF THE RESERVE T
		1 ,	wall. Inaccessable.
			Land mountainous, very rough.
			Soil rocky, 4th rate.
			Vegetation: grass and sage.
			And the first of the same of t
			16th Mile,
1			S. 89° 50' E. on tangent to the parallel.
			Ascend cañon wall.
	4800	27.52	Point to which triangulation was made, on top of high
		n H.I. RE.	rocky bluff. About 1/2 mile east of bottom of
		A DAR L	canon which is 2000 ft. deep, bears N. and S.
		Enly W	Thence by tape measurement.
		27,60	North 180 lks. from the tangent set a limestone
		27,000	36x16x6 ins. on bed rock in a mound of stone for 15th
			mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
		a treit des.	
		or trade to	on S. and 15.345 M. on W. faces. Raised a
		- Litera	mound of stone 5 1/2 ft. base 2 1/2 ft. high east
		- rate	of cor. Pits impracticable.
ŀ			Barometer 4800 ft. Thermometer 60°.
	in-a		Thence continuing on tangent. Descend over N. E. stope, measurement by steel tape.
		52.00	Bottom of dry ravine. About 300 ft. deep. Course
			S. E. Ascend.
		62.00	Top of spur, slopes S. E. About 300 ft. above bot-
			tom of gulch. Descend.
		75,50	Bottom of dry gulch, course S. E. Ascend.
			Difference between measurements of 52.40 chs. by two
			sets of chainmen is 12 lks. Position of middle point
			by 1st set 52.46 chs. By 2nd set 52.34 chs. The
	- 1		mean of which is 52.40 chs. + 27.60 chs.
			mount of Attract as outlies of the Attract

BOUL		WE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	All the state of t
4650	80,00	North 196 lks. from the tangent set a limestone
	, GATA	33xl0x7 ins. 22 ins. in the ground for the 16th mile
		cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on S. and
		16 M. on the W. faces. Raised a mound of stone
		5 1/2 ft. base 2 1/2 ft. high east of cor. Pits
		impracticable.
		Land mountainous.
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		Barometer 4650 ft. Thermometer 60°.
		At 16th mile corner, at 6h 39m P.M. l.m.t. I
	,	observe Polaris at the western elongation in ac-
		cordance with instructions in the manual and mark
		a point in the line thus determined on a plug driven
		in the ground north of my station.
		April 1st, 1901.
		end spid Girls GIRD
		April 2nd, 1901 at 7h A. M. I set instrument on
		point at 16th mile cor. sight on point determined
		last night by observation on Polaris at western
		elongation and lay off the azimuth 1° 31.6' to the
		east and establish a true meridian. From this merid-
		ian I lay off 90° 00' to the east, taking the mean
		of four repetitions of the angle with the telescope
		reversed at each sight. The magnetic bearing of
		the meridian is N. 15° 58' W. This reduced by the
		table page 100 of the manual gives the mean magnetic
		declination 15° 55' E.
		dates considered state better vend classe comme month dated digner again.
		17th Mile.
		Ran east on the tangent to the parallel.
		Descend along S. E. slope.
	3,00	Bottom of dry guleh, course S. E. Ascend.

17.00 Top of spur falls S. E. Descend.

ALTITUDE	CHAINS	MILLIAN MILLIN MILLIAN MILLIAN MILLIAN MILLIAN MILLIAN MILLIAN MILLIAN MILLIAN
	57.00	Bottom of dry gulch, course S. E. Ascend.
	63,00	Top of spur or ridge, bears N. W. and S. E.
	70,00	Dry gulch, course N. E. Ascend.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 1.4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is.
4300	80.00	North .76 of lk. from the tangent,
		Set a conglomerate stone 31x18x6 ins. 10 ins. in the
		ground to bed rock and build a pile of stone around
		it for the 17th mile cor. Marked UTAH on the N.
		37 N.L. on E. ARIZ. on S. and 17 M. on the W. faces
		Raised a mound of stone 5 1/2 ft. base 2 1/2 ft. high
		east of cor. Pits impracticable.
		Land mountainous.
		Soil very rocky, 4th rate.
		Vegetation scanty, grass and sage.
		Barometer 4300 ft. Thermometer 70°.
		Also date and sent store due due date date and also
		18th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend over north slope, broken rocky land.
	24.00	Bottom of canon, course N. E. about 200 ft. deep.
		Ascend.
-	30.00	Top of spur, slope N. E. Descend.
	60.25	Dry ravine, course N. E. Ascend.
	75.00	Top of spur, slope N. E. Descend.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is.
3950	80,00	North 3 1ks. from the tangent.
		Set a limestone 30x16x7 ins. 20 ins. in the ground
		for 18th mile cor. Marked UTAH on the N. 37 N.L. on E.
		ARIZ. on S. and 18 M. on W. faces. Raised a mound
		of stone 5 1/2 ft. base 2 1/2 ft, high east of cor.



	ALTITUDE	CHAINS	
		La Bons	AND LOW AND CONTROL OF THE PARTY OF THE PART
			Pits impracticable.
			Land mountainous.
			Soil rocky, 4th rate.
			Vegetation: grass, sage and greasewood.
			Barometer 3950 ft. Thermometer 70°.
			The state of the s
			19th Mile,
			S, 89° 59' E, on tangent to the parallel.
			Descend S. E. slope.
		19.00	Dry gulch, Course N. E. Ascend.
	3825	28,00	Top of spur, slope N. near the edge of canon, bears
			N. and S. This is the Virgin River Canon. The walls
			are too nearly perpendicular to measure with tape and
			too far across to measure with stadia.
			The country on this side of the river is too rough
			to admit of measuring a base line. I therefore
			set a flag across the river on the top of the op-
			posite canon wall on this tangent and leaving a flag
			at this point I crossed the canon and setting
			at the flag, sight back to the flag on the west
			side of the canon and turn an angle to the south of
			40° 26' for a base line. I measure this base line
			very carefully; 22,86 chs. is the longest base
			line possible and see the flag across the canon.
			I set instrument at the south end of the base and
			taking a back sight on the north end, measure the
			angle to the flag across the canon. The mean of
			repeated angle goies 127° 52' for this angle.
			W E
			repeated angle goves 127° 52' for this angle. WE
			The state of the s
1			

ALTITUDE	CHAINS	ALTERED CHARGE
	"MKD ·	Then, Sin, 11° 42': 127° 52':: 22,86 chs.
		a. c. log. Sin. 11° 42' 0.692959 log. Sin. 52° 08' 9.897320° log. 22.86 chs. 1.359076 1.949355 = 88.99 chs.
	era lagget to	Thence east from the 28,00 chain point west of the
	1 . 11 . 110	river.
	30,00	Top of perpendicular wall. Descend.
	che To A	Thence over cliffs.
	50,00	About foot of cliffs 1000 below the top bears N. E.
		and S. W.
2650	65,00	Virgin River 1.50 chs. wide, 2 13 ft. deep, swift.
		muddy stream, course S. W. Ascend cliffs.
	80.00	End of the 19th mile. Inaccessable.
		Land mountainous.
	39.00	Soil rocky, 4th rate.
- 1 A	ATT TO THE	Vegetation: grass, sage and mesquite and willow
		brush along the river.
0.	min of	20th Mile,
		8.89'58'E untangent to the parallel. Ascend.
3650	36,99	Triangulation point on top of ridge, river bluffs
	10444	bears N. E. and S. W.
		North 9 lks. from the tangent.
	1100	Set a limestone 30x24x6 ins. 20 ins. in the ground
	1 K.	for 19th mile corremarked UTAH on N. 37 N.L. on E.
		ARIZ. on S. and 19.463 M. on W. face. Raised amound
	brion a sec	of stone 5 1/2 ft. base 2 1/2 ft. high east of cor.
1000	Not a my	Pits impracticable.
t in the	an An An	Barometer 3650 ft. Thermometer 75°.
	1 10	April 2nd, 1901.
		S. 89° 58' E. on tangent to the parallel.
		Descend over sandy and rocky ground.
	49.00	Dry rocky gulch, course N. E. Ascend.
	73.35	Top of ridge, bears N. and S. Descend.
		Difference between measurements of 43.01 chs. by two
		sets of chairmen is 4 lks. Position of middle point

	ALTITUDE	Chains	MATERIAL SECTION AND ADDRESS OF THE PROPERTY.
4		n igente	by 1st set 43.03 chs. By 2nd set 42.99 chs.
			The mean of which is 43.01 chs. + 36.99 chs. =
	3500	80,00	End of 20th mile,
		P. Ballanda	North 12 lks. from the tangent.
		TO VENDET	Set a limestone 32xl0x6 ins, 22 ins, in the ground
			for 20th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ, on S. and 20 M. on W. faces. Raised a mound of
			stone 5 1/2 ft. base 2 1/2 ft high east of cor.
			Pits impracticable.
			Land mountainous.
		HALLAGE.	Soil rocky and sandy, 4th rate.
			Vegetation: grass and sage.
			Barometer 3500 ft. Thermometer 70°.
			THE CHARLES AND THE PARTY OF THE PROPERTY OF THE PARTY OF
			21st Mile,
			I compare the tapes with the standard and find them
			correct. I examine the instrument and correct the
			level and collimation errors and test the stadia
			wires.
			Thence S. 89° 57' E. on tangent to the parallel.
		Carl Sharp	Descend over rolling sandy and rocky ground.
		9,00	Dry gulch, course S. E. Ascend.
		19,00	Top of spur, slope N. E. Descend.
	Maria en	48,50	Dry gulch, course N. E. Ascend.
		54.00	Top of spur, slope N. Descend.
		64.75	Dry gulch, course N. E. Ascend.
		70.00	Top of spur or hill bears N. and S. Descend.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is,
	3100	80,00	North 19 lks. from the tangent.
			Set a limestone 31x12x6 ins. 21 ins. in the ground
			for the 21st mile cor. Marked UTAH on N. 37 N. L.
			on E. ARIZ. on S. and 21 M. on W. faces. Raised a
			mound of stone 5 1/2 st hage 2 1/2 ft.high east of cor

and the second of the second o		
ALTITUDE	CHAINS	Pits impracticable.
		Virgin River about 1 1/2 miles north.
		Land rolling and broken.
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
-	The section	Barometer 3100 ft. Thermometer 75°.
		- Control Callette of Control Callette on March 1981, R. C. Control Callette on Callette o
20,100	484,0374	22nd Mile.
		S. 89° 57' E. on tangent to the parallel.
	The st	Descend over broken and rolling land.
	0.75	Dry gulch, course N. E. Ascend.
	4.00	Top of round hill. Descend.
	13,00	Dry gulch, course N. E. about 30 ft. below top of hill
bat d	water 40	Ascend.
111.000	32.00	Top of knoll about 40 ft. above gulch. Descend.
	73.00	Bottom of dry gulch, course N. E. 50 ft. below knoll.
MAN A	- 100 m	Ascend.
THE REAL PROPERTY.	CACCUMP 1	Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is.
2950	80,00	North 27 lks. from the tangent.
		Set a limestone 31x18x7 ins. 21 ins. in the ground.
		for 22nd mile cor. Marked UTAH on N. 37 N.H. on E.
	_ 1 -	ARIZ. on S. and 22 M. on W. faces. Dug pits 36x36x18
		ins. N. S. E. and W. of the cor. 6 ft. dist. Raised
		a mound of earth 5 1/2 ft. base 2 1/2 ft. high east
		of corner.
		Land rolling and broken.
		Soil sandy and rocky, 3rd rate.
	HATE TO	Vegetation: grass and sage.
		Barometer 2950 ft. Thermometer 82°.
		23rd Mile.
		S. 89° 56' E. on tangent to the parallel.
		Descend.

ALTITUDE	Chains	
	0,10	Dry gulch, course S. W. Ascend
	18,00	Top ofspur, slope S. W. Descend.
	22.00	Dry gulch, course S. W. Ascend.
	24.00	On ridge, bears N. and S. Thence by stadia
	24,00	measurement Angle 12°+ Rod 6.28 ft. Constant
		95.68 x 628 ft. = 600.87 + C = 1.12 = 601.99 ft. =
		9.12 chs. + 24.00 chs. = 33.12 chs.
	77 19	Top of rock capped butte about 125 ft. high, thence
	00978	by steep tape measurement.
	46,00	East edge of flat topped butte, bears N. and S.
	40,00	
	F6 00	Descend. Bottom of wash about 100 ft. deep, course N. E.
	56,00	A STATE OF THE PARTY OF THE PAR
		Ascend. Difference between measurements of 70.88 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 70.90 chs. By 2nd set 70.86 chs. The mean of which is. 70.88 chs. + 9.12 chs =
	80,00	Falls on side of steep cliff. Impracticable to
,	7	establish corner.
		Land rolling and broken,
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		diese dicht dens biese sons diese dens diese dens dens sons eine treue
		24th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Ascend.
3200	7.00	Top of cliffs, bear N. E. and S. W. about 100 ft.
		above wash.
		North 38 lks. from the tangent.
		Set a limestone 30x12x10 ins, on bed rock in a
		mound of stone for 23rd mile cor. Marked UTAH on N.
		37 N. L. on E. ARIZ. on S. and 23,087 M. on W. faces.
		Raised a mound of stone 5 1/2 ft. base 2 1/2 ft. high
		East of cor. Pits impracticable.
		Land rolling and broken.

ALTITUDE	CHAINS	Soil rocky, 4th rate.
	111111111111111111111111111111111111111	Vegetation: grass and sage. Barometer 3200 ft. Thermometer 75°.
		Balowetel 2200 It . Idelinomerel 12 .
		Descend east slope over rolling land.
	8,63	Edge of rocky bluff bears S. W. and N. E. north end
		1 ch. dist. Descend.
1111	36,00	Bottom of wash, course N. E. about 100 ft. below
		corner. Ascend.
	37,00	Wagon road bears N. and S. from St. George to Black
	, it solves	Rock Springs.
	47,00	Top of hill about 50 ft. above road, bears N. and
	· Maria	S. Thence along north slope over rolling hills.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
1		by 1st set 80.03 chs. By 2nd set 79.97 chs.
	411 699	The mean of which is.
3150	80.00	North 49 lks. from the tangent.
		Set a limestone 36x12x10 ins. 6 ins. in the ground
		to bed rock. Built a stone mound around it for
		24th mile cor. Marked UTAH on N. 37 N. L. on E.
	-1 - 510	ARIZ. on S. and 24 M. on the W. faces. Raised a
		mound of stone 5 1/2 ft. base 2 1/2 ft. high east of
		cor. Pits impracticable.
	·	The corner of sections 26, 27, 34 and 35 T. 43 S. R.
		16 W. Salt Lake Meridian bears N. 35° 39' W. 58.78
		chs. This cor. is a limestone 5x10x8 ins. above
		ground. Marked with 1 notch on the S. and 2 notches
		on the E. edges with a mound and pits.
		Land rolling.
		Soil sandy and rocky, 3rd rate.
		Vegetation: grass and sage.
		Barometer 3150 ft. Thermometer 70°.
		At 6h, 3lm P.M. l.m.t. I observe Polaris at
		western elongation at the 24th mile corner in

		•	
ALTITUDE	Chains		
		accordance with instructions in the manual and mark	
		a point in the line thus determined on a plug driven	
	Series .	in the ground north of my station.	
		April 3rd 1901.	
		School and Literature over the Land School	
	1000.5	April 4th, 1901 at 7h, 10m, A. M. I lay off the	
		azimuth of Polaris 1° 31.6' to the east and estab-	
	THE LINE	lish the true meridian. From the meridian so	
		established I lay off an angle of 90° 00' to the	
- Shipti	100,000	east taking the mean of 5 repetitions of the angle.	
		The magnetic bearing of the meridian . 15° 53'	
10000		W. which reduced by the table page 100 of the manual	
The same		gives the mean magnetic declination 15° 50' E.	
Till Grand	No - with		
distant 4		25th Mile.	
		I compare the steel tapes with the standard and test	
		the stadia wires for correct measurements.	
	300,00	Ran east on the tangent to the parallel.	
The Party	THE REAL PROPERTY.	Descend over rolling land.	
	10.00	Enter flat, bears N. and S.	
1	59,00	Dry bed of creek 1.50 chains wide course N. Ascend.	
	71,00	On flat about 40 ft. above creek bed bears N. and	
30/16/1		s. Thence over nearly level land.	
		Difference between measurements of 80 chs. by two	
		sets of chainmen is 2 lks. Position of middle point	
		by 1st set 80.01 chs. By 2nd set 79.99 chs.	
		The mean of which is.	
2750	80,00	North .76 of 1k. from the tangent.	
		Set a black lava stone 30x14x7 ins. 20 ins. in	
		the ground for 25th mile corner. Marked UTAH on	
		N. 37 N. L. on E. ARIZ. on S. and 25 M. on the	
		W. faces. Raised a mound of stone 5 1/2 ft. base	
		2 1/2 ft, high east of cor. Pits impracticable.	
		Land Wager level.	

ALTITUDI	E CHAINS	Attendings Charge
		Soil sandy, 3rd rate.
	, L o i	Vegetation grass and sage.
	t. 1 5 °	Barometer 2750 ft. Thermometer 48°.
	при виде	Virgin River about 2 miles north. Foot of
		Mountains about 5 miles south.
0.00	go ,arin	Out the articles of the first o
•	1.0	26th Mile.
		S. 89° 59 E. on tangent to the parallel.
	ddiw mot	Across nearly level land.
da v G	2.00	Wagon road bears N. and S.
	12.75	Wagon road bears N. and S.
	17.50	Dry gulch, course N.
	57.00	Dry gulch, course N. W.
	69.75	Dry gulch, banks 6 ft. high, course N. W.
shog of	or Directors	Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
2800	80.00	North 3 lks. from the tangent.
		Set an iron pipe 2 ins. diam 5 ft. long with
		flanges at the bottom 3 ft. in the ground for the
	101,00	26th mile cor. A brass cap on top of the pipe has
	1,60%	raised letters UTAH on N. ARIZ. on S. and 26 M.
	Was Joa	stamped in the center. Dug pits 36X36X18 ins.
	Mary Mary	N. S. E. and W. of the cor. 6 ft. dist. and raised
	P. Marin	a mound of earth 5 ft. base 2 ft. high around the
		post. This cor. stands in a little valley. Low
Sed	24/10	hills about a mile north and foot of mountains about
dethas	r pated 1	5 miles south. Price City about 2 1/2 miles north.
	- #/IO//HE	Land nearly level.
		Soil sandy, 3rd rate.
		Vegetation grass, sage and greasewood.
Manager 1	to the gala	Barometer 2800 ft. Thermometer 48°.
0.85%	102,0	
	I DAVID O	

	ALTITUDE	Chains	27th Mile.
			S. 89° 59' E. on tangent to the parallel.
			Over gently rolling pland.
		50.80	Top of white hill about 20 ft. high. Descend.
		75.50	Dry gulch, course S. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is nothing. The mean is
	2850	80.00	North 7 lks. from thetangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with
			flanges at the bottom 3 ft. in the ground for 27th
			mile cor. A brass cap on top of the pipe has
			raised letters UTAH on N. ARIZ. on S. and 27 M.
			stamped in the center. Dug pits 36X36X18 ins.
			N. S. E. and W. of cor. 6 ft. dist. and raised a
			mound of earth 5 ft. base 2 ft. high around the post.
			Iand rolling.
			Soil sandy, 3rd rate.
2.4			Vegetation grass and sage.
69 W			Barometer 2850 ft. Thermometer 50°
			28th Mile.
			S. 89° 58' E. on tangent to the parallel.
			Ascend over low hills.
		15.50	Top of hill about 30 ft. high, bears N. E. and S. W.
		19.00	Bottom of wash, course S. W.
		37.00	Top of bench, bears N. E. and S. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 2 lks. Position of middle point
			by 1st set 80.01 chs. By 2nd set 79.99 chs.
			The mean of which is
	2800	80,00	North 12 lks. from the tangent.
	2000		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for the 28th mile
			corner. A brass cap on top of the pipe has
			raised letters UTAH on N. ARIZ. on S. and 28 M.
			stamped in the center.

ALTITUDE	Chains	PRIARIA SEGURIANA
		Test our Tille F. Militaro in C. and in It.
		singued in the dealer. Dug pits 36x36x18 ins.
	*	N. S. E. and W. of cor. 6 ft. dist. Raised a
		mound of earth 5 ft. base 2 ft. high around the
		post. This cor. stands at the west edge of low
		limes tone hill.
		Land rolling.
	eer Ea Jin	Soil sandy, 3rd rate.
100	THE SMITH	Vegetation: grass and sage, very scanty.
1112 mg a		Barometer 2800 ft. Thermometer 50°.
	AN AN	
		29th Mile.
		S. 89° 57 ' E. on tangent to the parallel.
40,000	or Clar	Ascend over rolling hill.
	4-11-11-	A do Natu belees and rate side and
1	17.47	Top of ridge nears N. and S. From this point
T.		with back sight on tangent to the west, turning
	11-14 p	north to the spire of the Mormon Temple in St.
		George makes an angle with the tangent of 72° 29'
		or the spire of the Temple bears north 17° 28' west.
	34.50	Dry gulch, course N. E. Ascend.
	40.00	Top of spur, slope N. E. Descend.
	47.00	Wagon road, bears N. and S.
	51,25	Dry gulch, course N. about 50 ft. below spur. Ascend
	58,00	Top of spur, slope N. Descend.
, - T 10	74.25	Bottom of wash, course N. E. Ascend.
	ayo.	Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is.
2790	80,00	North 19 1ks. from the tangent.
		Set a limestone 32x12x11 ins. 22 ins. in the ground
	u	for 29th mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 29 M. on the W. faces. Raised
		a mound of stone 5 1/2 ft. base 2 1/2 ft. high east

ALTITUDE	Chains	1
LLITTODE	CHAINS	Land rolling,
		Soil sandy, 3rd rate,
		Vegetation: grass and sage,
		Barometer 2790 ft. Thermometer 56°.
		English Colonia of Colonia (Colonia Colonia Co
		30th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Ascend.
	10,00	Top of spur, slope N. W. Thence ascend along N. slope
		Difference between measurements of 80 chs, by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is.
2900	80,00	
		Set a lava stone 30x14x14 ins. 20 ins. in the ground
		for 30th mile cor. Marked UTAH on N. 37 N.L. on
		E. ARIZ. on S. and 30 M. on the W. faces. Raised
		a mound of stone 5 1/2 ft. base 2 1/2 ft. high east
		of cor. Pits impracticable. There is a lava capped
No.		butte about 1/2 mile south of this cor.
43005 P		Land rolling.
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		Barometer 2900 ft. Thermometer 60°
		A Commission of the commission
		31st Mile.
		S. 89° 56' E. on tangent to the parallel. Ascend.
	20.42	Top of black lava spur about 200 ft. above last cor.
		slope N. Descend along N. slope.
	39,50	Dry gulch, course N. W. Ascend.
3100	55.17	Top of spur, slope N. spire of Mormon Temple in
		St. George makes angle with tangent of 55° 59' of
		the Temple bears N. 33° 57' W. Descend.
	74.00	Bottom of wash, course N. E.
		Difference between measurements of 80 chs. by
THE SEC. OF		two sets of chainmen is/2 lks. Position of middle

ALTITUDE	CHAINS	STARTS STARTS
witches.	as atrib	point by 1st set 80.06 chs. By 2nd set 79.94 chs.
	North St.	The mean of which is.
2800/	80,00	North 37 lks. from the tangent.
	P4-455	Set a black lava stone 33x12x11 ins. 22 ins. in the
		ground for 31st mile cor. Marked UTAH on the N.
	* #	37 N. L. on the E. ARIZ. on the S. and 31 M. on
		the W. faces. Raised a mound of stone 5 1/2 ft.base
- Constant		2 1/2 ft. high east of cor. Pits impracticable.
	To per	This cor. stands on the east slope of black spur among
N Local	I will an	angular blocks of lava.
The state of	armen e	Land rolling and broken.
		Soil rocky, 4th rate.
	77, 7	Vegetation: grass and sage.
		Barometer 2800 ft. Thermometer 60°.
	- 120	
mit to	men han i	32nd Mile.
1511-454	TITE BUT	S. 89° 55' on tangent to the parallel.
	a ha a na san	Descend over broken rock.
	3,00	Foot of hill bears N. and S. Enter gumbo flat.
	12.20	Dry gulch 15 lks. wide, course N. E.
CT and to S	ril comit	Difference between measurements of 80 chs. by two
2 m	nana edd	sets of chainmen is 6 lks. Position of middle point
erst	nit trencis	by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is.
2750	80.00	North 49 lks. from the tangent.
	al north	Set an iron pipe 2 ins. diam. 5 ft. long with
		flanges at the bottom 3 ft. in the ground for 32nd
		mile cor. A brass cap on top of the pipe has raised
		letters UTAH on N. ARIZ. on S. and 32 M. stamped in
		the center. Dug pits 36x36x18 ins. N. S. E. and
		W. of cor. 6 ft. distant and raised a mound of earth
		5 ft. base 2 ft. high around the post.
-7,100	-17	This cor. stands in a flat. The cor. of Tps. 43
	THE PARTY NAMED IN COLUMN TO SERVICE AND ADDRESS OF THE PARTY NAMED IN	and 44 s. Rs. 14 and 15 W. Salt Lake Meridian bears
	The second secon	S. 44° 50' W. 44.43 chs. dist.

		L DETWEEN THE STATE OF CTAIL AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	
		This cor, is of limestone 10x8x6 ins, above ground.
		properly marked and notched with mound and joits.
		Land nearly level.
		Soil clay and sandy, 3rd rate.
	10.5	Vegetation: grass and sage.
		Barometer 2750 ft. Thermometer 62°.
		para antis para sinis diper antis diper an
		At the 32nd mile cor. 6h, 27m, P.M. l.m.t. Iobserve
		Polaris at western elongation in accordance
		with instructions in the manual and mark the line
		thus determined on a plug driven in the ground north
		of my station.
		April 4th, 1901.
		The state of the s
		April 5th, 1901, at 8h, A.M. I lay off the
		azimuth of Polaris 1° 31.7' to the east and mark the
		true meridian thus determined upon a plug driven in
		the ground north of my station. The magnetic bearing
		of the said true meridian is N. 16° 05! W. This
		reduced by the table page 100 of the manual gives
		mean magnetic declination 16° 02' E. From this meri-
		dian I lay off 90° to the east taking the mean of
		4 repititions of the angle, for the tangent to the
		parallel.
		I compare the steel tapes with the standard. Test
		the levels, stadia wires and collimation of the
		instrument and find all correct.
		allia) alone come come some some some some some some some s
		33rd Mile.
		East on the tangent to the parallel.
		Along flat.
	2.00	Leave flat, bears N. and S. Ascend.
2850	8.50	Top of spur about 100 ft. high, slope N. Descend.
2750	20.30	Pierce wash, dry, 75 lks, wide, course N. W. An
		old stone corral about 5 chs. S. thence following

DOOM	DARI HIN	L DEI WEEL THE STATE OF CIAH AND THE TERRITORY OF AREECVAS.
ALTITUDE	Chains	Averaged Course
. 1		up the Pierce wash.
- 1	22,00	Water hole and spring in creek bed 25 lks. north
		known as the Herd House Spring.
	24,00	Long dry bed of Pierce wash, comes from S. E.
	39.00	Wagon road bears N. 80° W. and S. 80° E.
	67,00	Leave flat, bears N. W. and S. E. Ascend along
		south slope.
	79,80	Dry gulch, course south.
e p		Difference between measurements of 80 chs by two
		sets of chainmen is 10 lks. Position of middle point
7 -		by 1st set 80.05 chs. By 2nd set 79.95 chs.
-		The mean of which is.
3050	80.00	North .76 of lk. from the tangent.
	- 17-10	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 2 ft. to bed rock for 33rd mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 33 M. stamped in the
		center. Raised a mound of stone around the post 5 1/2
		ft. base and 3 ft. high. Pits impracticable. This
		corner stands on the point of a low spur between two
		gulches.
		Land rolling.
		Soil sandy and stony, 3rd rate.
		Vegetation: grass and sage.
		Barometer 3050 ft. Thermometer 48°.
		desire made belle date date date date date date
		34th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend.
	0.25	Bottom of dry gulch 20 lks. wide, course S. W.
		Ascend,
	36,00	Top of spur, slope S. W. Descend.
	61,00	Pierce wash 50 lks. wide, water about 20 lks. wide
		and 2 ins. deep. course S. W. Banks 6 ft. high

-	ALTITUDE	CHAINS	
	ALTITUDE		
		70.50	Wagon road bears S. 70° W. and N. 70° E. Ascend.
			Difference between measurements of 80 chs by two sets
			of chainmen is 14 lks. Position of midle point
			by 1st set 80.07 chs. By 2nd set 79.93 chs.
			The mean of which is.
	3060	80.00	Top of round knoll about 20 ft. high Morth 3 lks.
			from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft, in very stony ground for 34th
			mile cor. A brass cap on top of the pipe has raised
			letters UTAH on N. ARIZ. on S. and 34 M. stamped in
			center. Raised a mound of stone 5 1/2 ft. base 2 ft.
			high around the post. Pits impracticable. This cor.
			stands on a knoll about 5 chains south of the
			Pierce wash. A red sandstone cliff about 200 ft.
			high about 10 chs. north.
			Land rolling.
			Soil rocky and sandy, 3rd rate.
			Vegetation: grass and sage, a few willows along the
			creek.
			Barometer 3060 ft. Thermometer 50°.
			dies state fine dans dans dans dans dans dans dans dans
			35th Mile,
			S. 89° 59' E. on tangent to the parallel.
			Descend.
		6.00	Dry gulch, course N.
		30,00	Stadia measurement from this point. Angle 15°+
			Rod 6.93 ft. double = 1386 ft. Constant 93.30 x
			1386/=1293.14 + C.= 1.11 = 1294.25 ft. = 19.60 chs.+
			30.00 chs. = 49.60 chs.
		38.00	Foot of cliffs bears S. and N. about 10 chs. and
			then N. E.
	3400	49,60	Top of black lava cliff 350 ft. high, bears S. 20°
			E. and N. 20° W. about 10 chs, then drops to Rivee
			wash. Thence by tape measurement over broken lava
			rocks sloping north

	ALTITUDE	Chains	
		68.75	Dry rocky gulch, course N. About 100 ft. deep.
		71.47	Ruins of old Ft. Pierce, bears N. 28' 40' E.
		75.00	Rocky gulch about 30 ft, deep, course N.
		79.00	Rocky gulch about 30 ft, deep, course N. W. Ascend.
			Difference between measurements of 60,40 chs, by two
			sets of chainmen is 4 lks. Position of middle point
			by 1st set 60.42 chs. By 2nd set 60.38 chs.
	?		The mean of which is 60.40 chs. + 19.60 chs. =
	3400	80,00	North 7 lks. from the tangent.
			Set a sandstone 33x12x12 ins. on bed rock for 35th
			mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
			S. and 35 M. on W. faces. Raised a mound of stone
			5 1/2 ft. base 2 ft. high around the cor. and
			raised a mound of stone 5 1/2 ft. base 2 1/2 ft. high
			east of cor. Pits impracticable. This cor. stands
			on steep rocky west slope, under a rock cliff.
			Land rough and broken.
			Soil very rocky, 4th rate.
			Vegetation: grass and sage.
			Barometer 3400 ft. Thermometer 60°.
			Company And And Company date of the same date date date date date date date dat
			36th Mile.
			S. 89° 58' E. on tangent to the parallel.
			Ascend.
		2.00	On top of cliffs about 20 ft. above the corner, bears
			N. and S. Thence over broken N. slope.
		24,00	Dry rocky gulch about 50 ft. deep, course N.
		34,45	On rocky spur slope N. Ruins of Old Ft. Pierce bears
			N. 23° W.
		43,50	Bottom of rocky gulch 80 ft. deep, course N.
		58,00	Bottom of rocky gulch 60 ft. deep, course N.
-		71.70	Bottom of rocky gulch 80 ft. deep, course N.
And the life of the barrens and the			Difference between measurements of 80 chs. by two
			sets of chainmen is 16 lks. Position of middle
1			

		Chapter A. Service and Control of the Control of th
ALTITUDE	CHAINS	
		point by 1st set 80.08 chs. By 2nd set 79.92 chs.
		The mean of which is.
3450	80,00	North 12 lks. from the tangent.
		Set a sandstone 36x13x11 ins. 1 ft. in the ground
		to bed rock for the 36th mile cor. Marked UTAH
		on the N, 37 N. L. on the E. ARIZ. on the S. and
		36 M. on the W. faces. Raised a mound of stone 5
		ft. base 2 ft. high around the cor. and raised a
		mound of stone 5 1/2 ft. base and 2 1/2 ft. high
		east of cor. Pits Inngonacticable.
		The war end of a red cliff 500 or 600 ft, high
		N. 26° W. about 5 miles dist.
		Land rough and broken.
		Soil very rocky, 4th rate.
		Vegetation: grass and sage.
		Barometer 3450 ft. Thermometer 72°.
		dang cord stord stord cord class stord c
		37th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Over broken rocky north slope.
	11,00	On top of canon wall, course N. and S. Descend.
	13,00	Bottom of canon about 100 ft. deep, course N.
	20.00	Top of spur, slope N. Descend.
	27.00	Bottom of wash 60 ft. deep, course N.
	65,25	Dry bed of stream 50 lks. wide, course N. Ascend.
		Leave rocks and enter sand plain, bears N. W. and S.E.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 12 lks. Position of middle point
		by 1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is.
3200	80.00	North 19 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 37th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 37 M. stamped in the

-	ALTITUDE	CHAINS	
			Donath Corporate W. C. H. and W. of
			center. Dug pits 36x36x18 ins. N. S. E. and W. of
			cor. 6 ft. dist. and raised a mound of earth 5 ft.
			base 2 ft. high around the post.
			Land rolling and broken.
			Soil rocky and sandy, 4th rate.
			Vegetation: grass and sage.
			Barometer 3200 ft. Thermometer 65°.
			April 6th 1901.
			38th Mile.
			S. 89° 57' E. on tangent to the parallel.
			Over gently rolling sand hills.
	. 77	27.00	Wagon road from St. George to Knab, bears N. W.
	1		and S.E.
		38 5 0	Pierce wash 75 lks. wide, dry, course N. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
			by 1st set 80.02 chs. By 2nd set 79.98 chs.
			The mean of which is.
	3350	80,00	North 27 lks. from the tangent.
	10-		Set a sandstone 33x16x6 ins. 22 ins. in the ground
			for 38th mile cor. Marked UTAH on N. 37 N. L. on
			E. ARIZ. on S. and 38 M. on the W. faces. Raised a
			mound of stone 5 1/2 ft. base 2 1/2 ft. high east of
			cor. Pits impracticable. This cor. denotes the
ı			south side of a rocky point.
			Land slightly rolling.
			Soil, sand and clay, 3rd rate.
			Vegetation: grass and sage.
			Barometer 3550 ft. Thermometer 70°.
			When there does now have also does now thing now does
			39th Mile.
			I compare the tape lines with the standard, test the
			stadia wires and examine the adjustments of the
			instrument and find all in adjustment.

ALTITUDE	Chains	S89°56' E on tangent to the parallel Over gravelly rolling land.
	54,00	Top of gravelly hill, bears N. and S. Descend.
	65.00	Bottom of dry gulch, course S. W. Ascend.
	75.25	Top of hill about 40 ft, high, bears N. E. and S. W.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is.
3350	80,00	North 37 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 39th mile cor.
		A brass cap on top of the pipe has raised letters UTAH
		on N. ARIZ, on S. and 39 M. stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft, dist, and raised a mound of earth 5 ft, base
		and 2 ft. high around the post.
		Land rolling.
		Soil gravelly, 3rd rate,
		Vegetation: grass and sage.
		Barometer 3350 ft. Thermometer 70°.
		40th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Over rolling gravelly land.
	23.00	Dry gulch, course S. W. Ascend.
	53.50	N. W. end of spur slopes N. Thence along N. slope
		Difference between measurements of 80 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is.
3450	80,00	North 49 lks. from the tangent.
		Set an iron pipe 2 ins, diam. 5 ft. long with flanges
		at bottom 3 ft. in the ground for the 40th mile
		cor. A brass cap on top of the pipe has raised let-
		ters UTAH on the N. ARIZ. on S. with 40 M. stamped
2000 797	THE LAND OF THE PARTY OF THE PA	

ALTITUDI	E Chains	The second of th
		in the center. Dug pits 36x36x18 ins. N. S. E. and
		W. of cor. 6 ft. dist. and raised a mound of earth
		5 ft. base 2 ft. high around the post.
	7	Land rolling.
		Soil sandy and gravelly, 4th rate.
		Vegetation scanty, grass and greasewood.
		Barometer 3450 ft. Thermometer 72°.
		. utriae dende
86 2	1119	41st Mile.
		S. 89° 55' E. on tangent to the parallel.
	1	Ascend gradually.
. 1	15.25	Dry gulch, course S. W.
	58.00	End of red hill slopes to N. and bears S. Descend.
	68.00	Bottom of same wash, course N. 80° E. Ascend.
	70.00	Top of spur, bears N. W. and S. E.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
	. 100	by 1st set 80.03 chs. By second set 79.97 chs.
		The mean of which is.
3650	-80.00	North 62 lks. from the tangent.
	b. 19	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	. were da.	at the bottom 3 ft. in the ground for the 41st mile
40.5	. unto Av	cor. A brass cap on top of the pipe has raised let-
		ters UTAH on the N. ARIZ. on S. and 41 M. stamped
		in the center. Dug pits 36x36x18 ins. N. S. E. and
		W. of cor. 6 ft. dist. and raised a mound of earth
		5 ft. base and 2 ft. high around the post.
	1.49 . 44	This corner inear the foot of the Hurricane
	94119414	ridge.
	. 10 11 11 11	Land rolling.
		Soil gravelly, 4th rate.
7 1		Vegetation scanty, grass and greasewood.
		Barometer 3650. Thermometer 70°.

ALTITUDE	Chains	
		42nd Mile.
		S, 89° 54' E, on tangent to the parallel.
		Stadia measurement to top of cliff. Angle 17°+ Rod
		8.195 double = 1639 ft. Constant 91,45 x 1639 =
		1498.87 + C = 1.10 = 1499.97 ft = 22.72 chs.
	1.80	Wagon road bears N. and S.
	10.00	Foot of Hurricane ridge, bears N. and S. Ascend.
		steep cliffs.
	22.72	Stadia point on top of cliffs about 500 feet above
		the corner, bears N. and S. Ascend. Thence by tape
		measurement.
	28.66	Wagon road from St. George to Knab bears N. and S.
	31.50	Same road bears N. W. and S. E.
	36.00	Top of spur, slope S. Descend.
	37.00	Same road bears N. E. and S. W.
	38.00	Bottom of gulch, course S. W. Ascend over rocks.
	51.00	Top of spur, slope N. Descend.
	58.75	Dry gulch, course, course N. Ascend.
4675	74.00	Top of spur, slope S. Descend.
		Difference between measurement of 57.28 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 57.31 chs. By 2nd set 57.25 chs.
		The mean of which is 57.28 chs. + 22.72 chs. =
4650	80.00	North 76 lks. from the tangent.
		Set a limestone 30x12x10 ins. 8 ins. in the ground
		to bed rock for 42nd mile cor. Marked UTAH on the
		N. 37 N. L. on the E. ARIZ. on S. and 42 M. on the
		W. faces. Raised a mound of stone 5 ft. base 18
		ins. high around the cor. and raised a mound of
		stone 5 $1/2$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		Land mountainous, rough and broken.
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		Barometer 4650 ft. Thermometer 65°.

ALTITUDE	Chains	43rd Mile.
		S. 89° 53' E. on tangent to the parallel.
		Descend.
	6.50	Dry gulch, course S. W. Ascend.
	12.20	Top of spur, slope S. Descend.
	17.75	Dry gulch, course S. W. Ascend.
4700	43.00	Summit of Hurricane ridge about 50 ft. above last cor-
		bears N. and S. Descend.
	51.00	Dry gulch, course S. W.
	55.00	Top of spur, slope S. W.
•	64.15	Dry ravine, about 30 ft. deep, course S. Wagon
		road in bottom bears N. and S. Runs from St. George
		road S. and E. to Knab via Antelope Springs and
		Pipe Springs.
	-	Difference between measurements of 80 chs. by two sets
1 F		of chainmen is 18 lks. Position of middle point
H.		by first set 80.09 chs. By 2nd sets79.91 chs.
		The mean of which is
4650	80.0 ø	North 92 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 43rd mile
		cor. A brass cap on top of the pipe has raised let-
		ters UTAH on N. ARIZ. on S. and 43 M. stamped in the
		center. Dug pits 36x36x18 ins. N. S. E. and W. of
		the cor. 6 ft. dist. and raised a mound of earth
		5 ft. base 2 ft. high around the post.
		Land mountainous, rolling and broken.
		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		Barometer 4650. Thermometer 60°.
		- Company of the second depth of the second de
		At the 43rd mile corner at 6h 15m P.M. l.m.t.
		I observe Polaris at western blongation though
		there is still some daylight, the star is plainly
		visible. I marked the line thus determined on a
		plug driven in the ground north of my station'

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	ALTITUDE	CHAINS	April 7th, 1901.	
			April 8th, 1901, at 7h. A.M. I lay off the azimuth	
			of Polaris 1° 37.7' to the east and mark the true	
			meridian thus determined on a plug driven in the	
			ground north of my station. The magnetic bearing	
			of said meridian is N. 16° 57' W. This reduced by	
			the table page 100 of the manual gives mean magnetic	
			declination 16° 54' E. From this meridian I lay off	
			90° to the east for tangent to the parallel. I	
			compare the steel tapes with the standard, test the	
			stadia wires and examine the adjustments of the	
			instrument. Find all correct.	
	dinas .		BELLEVIS BERNESS SECTION TO THE LEASE SECTION AND AND ADDRESS OF THE PARTY OF THE P	
			44th Mile.	
			East on the tangent to the parallel.	
			Descend over rolling land.	
		5.00	Dry gulch, course S. Ascend.	
		10.00	Top of spur, slope S. Descend.	
		30.00	Dry gulch, course S. W. Ascend	
		The st	Difference between measurements of 80 chs. by two	
			sets of chainmen is 4 lks. Position of middle point	
			by 1st set 80.02 chs. By 2nd set 79.98 chs.	
			The mean of which is	
	4520	80.00	North .76 lks. from the tangent.	
		Sp. Line	Set a sandstone 34x14x10 ins. on bare rock for	
			44th mile cor. Marked UTAH on N. 37 N. L. on E.	
			ARIZ. on S. and 44 M. on W. faces. Raised a mound	
			of stone 5 ft. base 2 ft. high around the cor.	
			Raised a mound of stone 5 1/2 ft. base 2 1/2 ft. high	
			east of cor. Pits impracticable. This cor. stands	
-			on a low cliff west of a rocky draw that drains S.	
			Land rolling and broken.	
-			Soil sandy and stoney, 3rd rate.	
			Vegetation: grass and sage.	
-			Barometer 4520 ft. Thermometer 36°.	
-			NOTE THAT STORY ABOUT ATTER AT	
1	THE REAL PROPERTY.	AND THE PARTY OF T		1

20021	Diller Hill	DEFINEDRY THE CITIE OF CITIE HIND THE LERRITORY OF ARRESTMA.
ALTITUDE	Chains	45th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend.
	3.00	Bottom of draw drains S. Ascend.
	10.00	Top of ridge, bears N. and S. Descend
	18.00	Dry gulch, course S. about 100 ft. below ridge.
		Thence along gentle south slope.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st. set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
4500	80.00	North 3 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
1		at the bottom 3 ft. in the ground for 45th mile
		cor. A brass cap on top of the pipe has raised
		letters UTAH on N. ARIZ. on S. and 45 M. stamped in
		center. Ding pits 36x36x18 ins. N. E. S. and W. of
		cor. and 6 ft. dist. Raised a mound of earth
		5 ft. base 2 ft. high around the post.
		West end of red cliffs about 600 ft. high bears
	. 11 11 11 11	N. 23° 20 W. about 12 miles dist. and west end
		of red cliffs south of the line bears S. 45° E. about
		4 miles dist.
		Land rolling.
,		Soil sandy, 3rd rate.
		Vegetation: grass, sage and a few cedar trees about
		½ mile N. E.
		Barometer 4500 ft. Thermometer 40°.
		Given community
		46th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Along gentle south slope.
	42.25	Wash 20 lks. wide, 6 ft. deep, dry, course S.
		Difference between measurements of 80 chs. by two
		sets of chainmen is nothing. The mean is
4450	80.00	North 7 1ks. from the tangent.

	D001	(DIIII MII)	in bill while the brill of brill hits the reactions of including
	ALTITUDE	Chains	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		. fer	at the bottom 3 ft, in the ground for 46th mile cor.
			A brass cap on top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 46 M. stamped in the
			center. Dug pits 36x36x18 ins. N. S. E. and W.
			of the cor. 6 ft. dist. and raised a mound of earth
			5 ft. base 2 ft. high around the post.
		d . anor	Land gently rolling.
			Soil sand and clay, 3rd rate.
			Vegetation: grass and sage.
			Barometer 4450 ft. Thermometer 48°.
			47th Mile.
			S. 89° 58' E. on tangent to the parallel.
			Over gently rolling land, along south slope.
		5.00	Dry gulch, course S.
		70.00	Dry gulch, course S.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
4	4500	80.00	North 12 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 47th mile cor.
	amout a		A brass cap on the top of the pipe has raised
			letters UTAH on N. ARIZ. on S. and 47 M. stamped
			in the center. Dug pits 36x36x18 ins. N. S. E. and
			W. of cor. 6 ft. dist. and raised a mound of earth 5 ft. base 2 ft. high around the post.
			West point of cliff bears N. 57° 51' W' and west
			point of cliffs on the south bears S. 120 30' E.
			Land gently rolling.
			Soil sandy, 3rd rate.
			Vegetation, grass and sage.
			Barometer 4500 ft. Thermometer 55°.

==			
	ALTITUDE	CHAINS	48th Mile.
			S. 89° 57' E. on tangent to the parallel.
			Descend.
		0.30	Dry gulch, course S. Thence over rolling land
			sloping south.
		4.31	Wire fence bears N. 12° W. and S. 12° E.
		6.00	Dry gulch, course S.
		21.25	Dry gulch, course S. 10 ft. deep.
	- 177 l	50.00	Enter flat bears N. E. and S. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 6 lks. Position of middle point
			by ist set 80.03 chs. By 2nd set 79.97, chs.
			The mean of which is
	4510	80.00	North 19 1ks. from the tangent.
	eller e	in ant	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	mo borr	mit on kee	at the bottom 3 ft. in the ground for 48th mile
		is almo	cor. A brass cap on top of the pipe has raised
	-11-111	I Carte	letters UTAH on N. ARIZ. on S. and 48 M. stamped
	7 7 6	Pro Entr	in the center. Dug pits 36x36x18 ins. N. S. E.
	- 1	or ord	and W. of the cor. 6 ft. dist. and raised a
	* etem	STREET	mound of earth 5 ft. base 2 ft. high around the
	P MILL	SER CHIL	post.
			A south salient of the line of cliffs on the north
			bears N. 63° 55' W. Westernmost point of cliffs
			on south bears S. 8° 56' W. A north salient of
			the south line of cliffs bears S. 76° 55' E.
			This corner stands in valley bottom on the flat.
			Teis about 3/4 of a mile north to the St. George and
			Kanab wagon road that goes via Canaan Springs.
		- 2 997	Land gently rolling.
		, must report	Soil sandy, 3rd rate.
			Vegetation: grass, sage and greasewood.
			Barometer 4510 ft. Thermometer 60°.
			One pass date plan that the pass date and the pass date.
		4 F 10 F	

			AND
	ALTITUDE	CHAINS	49th Mile.
		. 10	S. 89° 57' E. on tangent to the parallel.
			Across valley bottom.
		19.30	The same and the same of the s
			12 ft, deep, 20 lks. wide, course S. 70° W.
		24.00	THE CHARLES AND SELECT MERCON SCHOOL OF BEILD AND SELECTION OF THE SELECTI
			over rolling north slope.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 2 lks. Position of middle point
1 1		No. Had	by 1st set 80'01 chs. By 2nd set 79.99 chs.
			The mean of which is
	4600	80.00	North 27 lks. from the tangent.
•			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for the 49th mile
			cor. A brass cap on the top of the pipe has raised
			letters UTAH on the N. ARIZ. on the S. and 49 M.
			stamped in the center. Dug pits 36x36x18 ins. N. S.
			E. and W. of the cor. 6 ft. dist. and raised a mound
			of earth 5 ft. base 2 ft. high around the post.
			A south salient of the north line of cliffs bears
			N. 12° 30' W. A. N. W. salient of the south line of
			cliffs bears S. 65° 20' E.
			Land gently rolling.
			Soil sandy, 3rd rate.
			Vegetation: grass and sage.
			Barometer 4600 ft. Thermometer 720.
			50th Mile.
			S. 89° 56' E. on tangent to the parallel.
			Over gently rolling land, along north slope. Ascend
			gradually.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 2 lks. Position of middle point
			by 1st set 80.01 chs. By 2nd set 79.99 chs.
	4660	00.00	The mean of which is
	4620	80.00	North 37 lks. from the tangent.

ALTITUDE

CHAINS

Set an iron pipe 2 ins. diam. 5 ft. long with flanges at the bottom 3 ft. in the ground for 50th mile cor. A brass cap on top of the pipe has raised letters UTAH on N. ARIZ. on S. and 50 M. stamped in the center. Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft. dist. raised a mound of earth 5 ft. base 2 ft. high around the post.

The 2nd Astronomical Observatory Station was not placed here, owing to the light sandy nature of the soil making it difficult to secure a firm foundation for the pier.

Land rolling.

the tangent.

Soil sandy, 3rd rate.

Vegetation: grass and sage.

Barometer 4620 ft. Thermometer 75°.

51st Mile.

S. 89° 55' E. on tangent to the parallel.

Ascend gradually over rolling land along north slope.

8.00 Enter low white hills, bears N. E. and S. W.

30.00 Top of ridge bears N. E. and S. W. about 50 ft. above last cor. Descend.

Dry gulch, 15 ft. deep, course N.

Difference between measurements of 80 chs. by two sets of chainmen is 6 lks. Position of middle point by 1st set 80.03 chs. By 2nd set 79.97 chs.

The mean of which is 80.00 chains.

Near this point I set up the pier and establish astronomical temporary, Station No. 2 - 2.50 chs. north of

April 8th, 1901.

April 13th 1901, we make the latitude of temporary observatory 37° 00' 02.5" = 3.83 chs. north of the

		STORY OF THE CONTROL
ALTITUDE	CHAINS	parallel. Our offset for this point is 49 lks.
		north of the tangent, placing it 2.01 chs, south
		of the temporary observatory, consequently this point
		is 1.82 chs. north of the true parallel, this being
		within the limit of 3" of arc allowed by the Hon.
		Commissioner, I continue this line.
4650	80.00	North 49 lks. from the tangent.
		The point for the 51st mile corner April 13th 1901
		at 5h 58m A.M. l.m.t. I observe Polaris at eastern
		elongation in accordance with the instructions in
		the manual. It is nearly full daylight, but the star
		is plainly visible through the telescope of the
		transit but not to the naked eye. I mark the line
		thus determined by a point on a plug driven in the
		ground 10 chs. north of my station. At 7h A. M.
		I lay off the azimuth of Polaris 1° 31.7' to the
		west and mark the true meridian thus found by a point
		on a plug driven in the ground north of my station.
		The magnetic bearing of the said true meridian is N.
		15° 20' W. This reduced by the table page 100 of
		the manual gives the mean magnetic declination
		15° 17' E.
		From this meridian I turn an angle of 90° to the
		east for the tangent to the parallel. In all these
		observations I use the mean of from four to eight
		sights reversing the telescope at each sight.
		At the point for the 51st mile cor. I set a sandstone
		shaft 6 ft. long 14 ins. broad and 12 in. thick,
		dressed square 8 ins. down from the top, set 3 ft. in
		the ground for the 51st mile cor. and the 2nd As-
		tronomical Monument marked with letters 11 ins.
		square deeply graven in the stone, UTAH on the N.
		37 N. L. on the E. ARIZONA on the S. and 51 M. on
		the W. faces. Raised a mound of stone 6 ft. base 2
		ft. high around the shaft. Dug pits 36x36x18 ins.

ALTITUDE

CHAINS

N. S. E. and W. of cor. 6 ft. dist.

North salient of high table land to the east bears N. 84° 30' E. about $\frac{1}{2}$ mile dist.

S. W. angle of same table land bears S. 24° 45' E. about $\frac{1}{2}$ milesidist.

High and sharp north salient of table land bears

S. 33° 10' W. about a mile dist. and south salient

of table land fartherest west on north side of valley

bears N. 75° W.

This station is at the mouth of a little valley that joins the larger one from the south and is about 3 miles north of the new pasture spring.

Land rolling.

Soil sandy, 3rd rate.

Vegetation very scanty, grass and sage.

Barometer 4650 ft. Thermometer 50°.

From the 51st mile the boundary line was projected as a true line but from the astronomical observations at the 94th mile cor. the temporary observatory at that point was found to be in latitude 36° 59' 51.6" or 12.87 chs. south of the 37th parallel and our projected line fell 8.14 chs. north of he observatory, therefore our line at that point was 4.73 chs. south of the true parallel and outside of the limit of 3" of are (which amounts to 4.596 chs.) allowed by the Hon. Commissioner. This answers to a correction of 11 lks. north per mile for the 43 miles from the 51st mile to the 94th mile. I therefore return to the 51st mile corner and re-run the line, applying the said correction of 11 lks. north per mile, thereby placing the corners on the true parallel.

52nd Mile.

East on the tangent to the parallel.

Over nearly level land.

ALTITUDE	CHAINS	
	25.00	From this point use stadia measurement to the top
		of cliffs. Angle 25°+ Rod 12.11 ft. Constant
		82.14 x 1211 ft. = 994.72 + C. = 1.04 = 995.76 ft. =
		15.09 chs. + 25.00 chs. = 40.09 chs.
	27.00	Foot of cliffs bears N. and S. Ascend.
5100	40.09	On top of cliff, stadia point about 450 ft. above the
		valley, bears S. and M. about 3.50 chs. Where they turn
		east, enter cedar and pinon timber, bears N.
		and S. Thence by steel tape measurement.
		Difference between measurements of 39.91 chs. by two
		sets of chainmen is 2 lks. Position of middle point
*		by 1st set 39.92 chs. By 2nd set 39.90 chs.
		The mean of which is 39.91 chs. + 40.09 chs. =
5050	80.00	North .76 lk, from the tangent + correction
		ll lks. = 11.76 lks.
		Set a sandstone 36x10x6 ins. 24 ins. in the ground
		for 52nd mile cor. Marked WTAH on N. 37 N. L. on
		E. ARIZ. on S. and 52 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft high east of
		cor. Pits impracticable.
		A cedar tree 12 ins. diam bears N. 30° E. 16 1ks.
		dist. marked UTAH 52 M. B. T.
		A piñon tree 10 ins. diam. bears S. 59° 30' E.
-		74 lks. dist. marked ARIZ. 52 M. B. T.
		A piñon tree 5 ins. diam. bears S. 60° W. 79 lks.
		dist. marked ARIZ. 52 M. B. T.
		A cedar tree 10 ins. diam. bears N. 53° W. 119 1ks.
		dist, marked UTAH 52 M. B. T.
		Land rough and broken.
		Soil rocky and sandy, 3rd and 4th rate.
		Vegetation: grass, sage and cactus, pinon and cedar
		timber.
		Barometer 5050 ft. Thermometer 55°.
		States active public control states from the

ALTITUDE	CHAINS	53rd Mile.
		S. 89° 59! E. on tangent to the parallel.
		Descend over rocky ground through timber.
	1.00	Dry gulch, ascend gradually.
	10.00	Descend gradually.
5075	25.00	On top of rock wall bears N. about 15 chs. and S. W.
		about a mile, drops perpendicularly about 200 hears N. and S.W
		ft. Then a steep slope, leave timber. Descend.
*		Stadia measurement. Angle 21°- Rod 10.73 Constant
		87.16 x 1073 = 935.23 + C = 1.07 = 936.30 ft. =
020041		14.18 chs. + 25.00 chs. = 39.18 chs.
4650	39.18	Foot of cliffs about 350 ft. below top, bears N.
		and S. Thence by tape measurement.
	56.00	Dry gulch, course N.
		Difference between measurements of 65.82 chs. by two
		sets of chainmen is 4 lks. Position of middle point
	,	by 1st set 65.84 chs. By 2nd set 65.80 chs.
		The mean of which is 65.82 chs. + 14.18 chs. =
4650	80.00	North 3 lks. from the tangent + correction 22 lks. =
	7. 44.0	25 lks.
		Set a sandstone 30x8x8 ins. 20 ins. in the ground
		for the 53rd mile cor. Marked UTAH on N. 37 N. L.
	View and	on E. ARIZ. on S. and 53 M. on the W. faces. Dug
		pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft.
		dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
		ft. high east of cor.
		A north salient of table land about 500 ft high
		bears south about 15 chs. dist.
		Land rough and broken.
		Soil rocky and sandy, 3rd and 4th rate.
		Vegetation: grass and sage in the valley; scrub cedar
		and pinon on table land.
		Barometer 4650 ft. Thermometer 60°.

ALTITUDE	CHAINS	54th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Over valley land.
	40.00	Bottom of wash, course N. W.
4700	50.00	Foot of bluffs, bears N. W. and S. E. Ascend.
5000	65.00	Top of cliff on rocky mesa bears N. W. and S. E.
		About 300 ft. above the valley. Enter scrub timber,
		bears N. W. and S. E.
	70.00	Top of wall bears N. W. and S. E. Descend.
		Leave timber. bears N.W. and s.E.
	80.00	Falls on N. slope among rock cliffs, Impracticable
		to establish cor.
		Land broken and rocky.
		Soil sandy and rocky, 3rd and 4th rate.
		Vegetation: grass and sage, and scrub cedar and
	prizzie.	pinon.
Roy M.		
	CONTRACT.	55th Mile. 55th Mile. 589°38'E. on tangent to the parallol.
		Descend:
4800	4.04	North 7 lks. from the tangent + correction 33 lks. =
		40 lks.
		Set a sandstone 36x8x7 ins. 24 ins. in the ground
***		for 54th mile cor. Marked UTAH on the N. 37 N. L.
		on E. ARIZ. on S. and 54.05 M. on the W. faces. Pits
		impracticable. Raised a mound of stone $5\frac{1}{2}$ ft.
		base 21 ft. high east of cor. This cor. stands
		at foot of north slope from cliff among large
		blocks of sandstone.
		A small valley to the north about 20.00 chs. wide
		runs N. W.
		Barometer 4800 ft. Thermometer 600
		continuing on tangent S. 89° 58' E.
		Descend.
	8.00	Dry gulch, course N. Ascend.
4900	19,00	Top of spur, slope N. Descend.

ALTITUDE 4800	CHAINS 46.00	Dry gulch, course N. W. Ascend over rocks and through
and i		scattering scrub timber.
		Difference between measurements of 75.96 chs, by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 75.99 chs. By 2nd set 75.93 chs.
<u></u>		The mean of which is 75.96 chs. + 4.04 chs. =
4990	80.00	North 12 lks. from the tangent + correction 44 lks.=
	ne . E . i	56 lks.
17 9 [1]		Set a sandstone 38x26x10 ins. 25 ins. in the ground
		for the 55th mile cor. Marked UTAH on N. 37 N. L.
		on E. ARIX. on the S. and 55 M. on the W. faces.
		Pits impracticable. Raised a mound of stone 51 ft.
		base 21 ft high east of cor.
		A cedar tree 6 ins. diam. bears S. 50° 15' W.
H C		273 lks. dist. marked ARIZ. 55 M. B. T. and a cedar
		tree 6 ins. diam. bears N. 57° 30' W. 211 1ks. dist.
i de la	, tor	marked UTAH 55 M. B. T. No other trees within limits
		Land rocky and broken.
	e .nge	Soil rocky and sandy, 4th rate.
	e t m	Wegetation: grass and sage, scattering scrub cedar
	50//08	and pinon.
		Barometer 4990 ft. Thermometer 60°.
	ern ern	April 13th, 1901.
- 5	a litte.	
, page 100 m	n i make	I examine the adjustment of the Heller and Brightly
	rasie M	transit and compare the tapes with the standard.
	1.1.	Find everything correct.
78.50	T, m	56th Mile.
	-	S. 89° 57' E. on tangent to the parallel.
	- 45-1	Leave scattering scrub timber, bears N. and S.
		Thence over gently rolling sand hills.
	38,60	Wagon road to Trumble Mountain saw-mills bears S.
		10° E 01'N. 10° W.
		Difference between measurements of 80 chs. by two
	,	sets of chainmen is 5 lks. Position of middle point by
		lst set 80.022 chs. By 2nd set 79.972 chs.

ALTITUDE	CHAINS	
	Connec	The mean of which is
5050	80.00	North 19 lks. from the tangent + correction 55 lks. =
	90a 90a	74 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	A TOP IS	at the bottom 3 ft, in the ground for 56th mile cor.
		A brass cap on top of the pipe has raised letters
	Hor. too	UTAH on N. ARIZ. on the S. and 56 M. stamped in
		center. Dug pits 36x36x18 ins. N. S. E. and W. of
harrona	distribution	the cor. 6 ft. dist. Raised a mound of earth 5 ft.
T. J. H	TE . ho at	base 2 ft. high around the post.
Literal	The same	Land rolling.
27,37	stere to	Soil sandy, 3rd rate.
		Vegetation: grass and sage.
0	William P	Barometer 5050 ft. Thermometer 60°.
Star.	LANGE OF	AND
Mills.	ed in	57th Mile.
ar his	PEN SINCE	S. 89° 57' E. on tangent to the parallel.
		Over sandy plain.
		Difference between measurements of 80 chs. by two
Take	turefit, p	sets of chainmen is nothing. The mean is
5100	80.00	North 27 lks. from the tangent + correction 66 lks. =
		93 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 57th mile
		cor. A brass cap on the top of the pipe has raised
		letters UTAH on N. ARIZ. on S. and 57 M. stamped in
		the center. Dug pits 36x36x18 ins. N. S. E. and W.
		of the cor. 6 ft. dist. Raised a mound of earth
		5 ft. base 2 ft. high around the post. The S. W.
		end of high rock cliff bears N. 12° 30' E. and a red
		rock peak bears N. 39° 26' E.
		Land nearly level.
		Soil sandy, 3rd rate.
		Vegetation: grass and sage.
		Barometer 5100 ft. Thermometer 700
		Since claims willing claims and/or places assess comes claims.

ALTITUDE	CHAINS	58th Mile.
		S. 89° 56' E. on tangent to the parallel.
		Over sandy plain.
	49.50	Wagon road from St. George to Kanab bears S. E.
		and N. W. with branch going north, from this point
		to Canaan Springs. About 4 miles dist.
		Difference between measurements of 80 chs. by two
		sets of chairmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is
5350	80.00	North 37 lks. from the tangent + correction 77 lks. =
		114 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the fround for 58th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 58 M. stamped in center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft. dist. Raised a mound of earth 5 ft. base 2
		ft. high around the post.
		A cedar tree 12 ins. diam bears N. 60° 35' E. 172
		lks. dist. Marked UTAH 58 M. B.T.
		No other trees within limits.
		Land gently rolling.
		Soil sandy, 3rd rate.
		Vegetation: grass, sage, with some cedar north of line
		Barometer 5350 ft. Thermometer 75°.
	v. dos 250	Billion size feet feet feet
		59th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Over rolling south slope along south edge of scrub
		cedar.
	15.35	Telephone line between Canaan and Pipe Springs,
		bears S. 35° E. and N. 35° W.
		Difference between measurements of 80 chs. by two

			AND THE STATE OF T
A	LTITUDE	CHAINS	point by 1st set 80.03 chs. By 2nd set 79.97 chs.
			The mean of which 1s
	5300	80.00	North 49 lks. from the tangent + correction 88 lks. =
		, D tegris	137 lks.
		Et Cay C	, Set a limestone 32x12x12 ins. 22 ins. in the ground
		100	for the 59th mile cor. Marked UTAH on N. 37 N.L.
		8 . 16.00	on E. ARIZ. on S. and 59 M. on the W. faces. Dug
		MALE OF	pits 36x36x18 ins. N. B. E. and W. of cor. 6 ft. dist.
		90.00	Raised a mound of earth 51 ft base 21 high east of cor.
			A cedar tree 10 ins. diam bears N. 68° 45' E. 164
		Vig-19	lks. dist. marked UTAH 59 M. B.T.
			No other trees within limits.
			Land rolling.
		A NO.	Soil sandy, 3rd rate.
		AK BOT	Vegetation grass, sage and cactus, with scrub cedar
			on north side of line.
			Barometer 5300 ft. Thermometer 80°.
		1,711	
			60th Mile.
			S. 89° 551 E. on tangent to the parallel.
			Descend gradually over gently rolling land.
			Leave timber on north side of line.
		76.00	Short creek 3 chs. wide, here dry, springs about
			a 1/4 mile above, course S. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
		80.00	Comes on east bank of creek in drifting sand.
			Impracticable to establish corner.
			Land rolling.
			Soil sandy and rocky, 4th rate.
			Vegetation: grass and sage, a few cottonwood trees
			along the creek.

Erratum.

61st mile.

In the examination of the 60th mile the examiner found the actual distance to be 95.16 chs. Acting upon this discovery H. B. Carpenter, U. S. Surveyor, changed the marking on the 60th mile corner to read 60.19, thus throwing the excess into the 61st mile. See report of examination.

ALTITUDE	CHAINS	61st Mile.
		S. 89° 54' E. continuing on tangent.
ndii-ja	5.00	Enter timber bears N. and S. Ascend.
5400	15.18	North 65 lbs from the languest + corretion 99 Ms. = 164 Ms. Set a sandstone 30x22x6 ins. 20 ins. in the ground
		for 60th mile cor. Marked UTAH on N. 37 N. L. on
-		E. ARIZ. on S. and 60.19 M. on the W, faces.
		Raised a mound of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft high
		east of cor. Pits impracticable.
		A cedar tree 10 ins. diam. bears N. 74° E. 28 lks.
	T. Co.L.	dist. marked UTAH 60.19 M. B.T. and a pinon tree 12
T. dame		ins. diam. bears S. 64° 30' W. 21 lks. diat. Marked
		ARIZ. 60.19 M. B.T. Other trees too rough to mark.
	a . A error	This cor. stands in the edge of timber at the foot
Die.		of the mountain on the east side of Short creek.
100	of woles	A corral across the creek about a mile north. Barons, 5400ft. Therm 80°. April 14th 1901.
		APPILI 1400
ow.t	a make k	I examine and test the adjustments of the transit
read au	b 139 + 108 4	and compare the tapes with the standard. Find all
	nde 00.	
		in adjustment. Ascend steep rugged mountain through scattering
nit th	GO 286	
0.450	50.00	timber. Top of rocky spur slopes to N. and runs nearly level
6450	50.00	to the S. about 1050 ft. above the cor.
	BA 2172	Descend.
	70.00	Bottom of rocky cañon about 650 ft. deep, dry,
1000	,0,00	course N. W. Ascend over broken rock.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 24 lks. Position of middle point
		by 1st set 80.12 chs. By 2nd set 79.88 chs.
		The mean of which is
6150	80.00	North 76 lks. from the tangent + correction 110 lks.=
	y Trail I	186 lks.
	W MARK	set a sandstone 30x12x8 ins. 20 ins. in the ground
		for 61st mile cor. Marked UTAH on N. 37 N.L. on E.

AND D			
	ALTITUDE	CHAINS	ARIZ. on S. and 61 M. on the W. faces. Raised a
			mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of
			cor. Pits impracticable. No trees within limits
			suitable to mark.
		. KAY	Land very rough and broken.
		Mayout	Soil rocky, 4th rate.
		Sales er	Timber, scrub cedar and pinon.
			Barometer 6150 ft. Thermometer 52°.
	- Lingu	m . a Pa	62 nd Mile.
	ML per		S. 89° 53' E. on tangent to the parallel.
	e Print	. Angelo .	Ascend over broken rock through scattering scrub
	o min o	i dayen.	timber.
	6850	50.00	Top of high sandy and rocky ridge bears N. and S.
	.30	en run	Cone shape 2 red buttes to the south. Descend.
	6150	76.00	Bottom of rocky canon about 700 ft. below top of
			ridge, dry, course S. Ascend.
			Difference between measurements of 80 chs. by two
	450		sets of chainmen is 22 lks. Position of middle point
	A facility		by 1st set 80.11.chs. By 2nd set 79.89 chs.
			The mean of which is
	6250	80.00	North 92 lks. from the tangent + correction 121 lks.=
			213 lks.
			Set a sandstone 34x18x6 ins. on bed rock for .
			62nd mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 62 M. on the W. faces. Raised a
			mound of stone 5 ft. base 2 ft. high around the cor.
			and raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
		A WALL	high east of cor. Pits impracticable.
			A cedar tree 10 ins. diam. bears N. 99°E. 133 lks.
			dist. Marked UTAH 62 M. B.T. A cedar tree 8 ins.
			diam. bears S. 80° E. 43 lks. dist. marked ARIZ.
		MAL TO	62 M. B.T. A piñon tree 10 ins. diam bears S. 45° W.
			123 lks. dist. Marked ARIZ. 62 M. B.T. and a cedar
			tree 12 ins. diam, bears N. 72° 30' W. 160 lks. dist.
-			

ALTITUDE	CHAINS	Marked UTAH 62 M. B.T. This cor. stands on a rocky
		west slope. Cottonwood springs about a mile south
		and Cane Bed Spring about 3 miles S. E.
	. ent	Land very rocky and much broken.
	in nac	Soil rocky and sandy, 4th rate.
,		Timber, scrub, piñon and cedar, valuable only for fire-
11912	Water !	wood,
		Barometer 6250 ft. Thermometer 65°.
		April 15th, 1901.
0,000	mark the	The state of the s
-	1 1	63rd Mile.
. ro	Lyndh .	So 89° 53' E. on tangent to the parallel.
		Ascend west slope through timber.
CASE No.	13.00	Top of ridge, bears N. and S. about 150 ft. above
HEN MI	1 tu 75	the last cor. Descend.
	50.00	Bottom of dry rocky canon, course S. about 850 ft.
		below top of ridge. Ascend.
	70.00	Top of spur about 250 ft. above canon. Descend.
		Difference between measurements of 80 chs. by two
	30, 300	sets of chainmen is 20 lks. Position of middle point
	4.4	by 1st set 80.10 chs. By 2nd set 79.90 chs.
	n Pontag	The mean of which is
5750	80.00	North 110 lks. from the tangent + correction 132 lks.=
15,400	a district	242 lks.
		Set a sandstone 30x24x6 ins. on bed rock for 63rd
	1 93 MU	mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
	COLUMN .	on s. and 63 M. on the W. faces. Raised a mound of
	1	stone 5 ft. base 2 ft. high around the cor. and raised
		a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable, Trees too rough to mark.
		This cor. stands on east slope of rocky canon about
		200 ft. above the bottom.
		Land very much broken.
		Soil very rocky, 4th rate.
		Timber: scrub cedar and pinon.

ALTITUDE	CHAINS	Barometer 5750 ft. Thermometer 60°.
ribiros	ortin is d	redermination and the common description of
	All S	64th Mile.
		S. 89° 52' E. on tangent to the parallel.
		Descend very steep over rocks and through scattering
cit rot	tutiso est	timber.
	77.00	Foof of cliff about 200 ft. below the cor., bears
		N, and S.
	10.00	Wash, 10 lks. wide, dry, course S.
	14.20	Foot of cliffs bears N. and S. Ascend over rough
		rocks and brush.
6350	51.00	Top of red rocky ridge bears N. and S. about 800 ft.
		above bottom of gulch. Descend.
		Difference between measurements of 80.00 chs by two
		sets of chainmen is 18 lks. Position of middle point
		by 1st set 80.09 chs. By 2nd set 79.91 chs.
. *		The mean of which is
6310	80.00	North 129 lks. from the tangent + correction 143 lks.=
		272 lks.
		Set a sandstone 30x15x6 ins. on bed rock for the
		64th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIX. on S. and 64 M. on W. faces. Raised a mound
		of stone 5 ft, base 2 ft. high around the cor, Rais-
		ed a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of
		cor. Pits impracticable.
		A cedar tree 10 ins. diam. bears N. 50° 30' E. 40
		lks. dist. Marked UTAH 64 M. B.T. A yellow pine tree
	A SPAN	8 ins. diam. bears S. 78° E. 120 lks. dist. Marked
	AND DE	ARIZ. 64 M. B.T. A yellow pine tree 10 ins. diam.
	auansylv	bears N. 63° W. 35 lks, marked UTAH 64 M. B.T.
	ANT TO A	No other trees within limits suitable to mark.
Anthelm .		
		This cor. stands on the south slope of bare rock. Cone shaped red buttes to the S. E.
		Land very rough and broken.
		Soil very rocky, 4th rate.
		Timber and brush, scrub pinon, yellow pine and cedar.

ALTITUDE	CHAINS	Barometer 6310.ft. Thermometer 50°.
4 [7 , 10]		65th Mile.
		S. 89° 52' E. on tangent to the parallel.
TARREST I		Descend over rough rocky cligfs, through scattering
bnF		timber.
	10.00	Bottom of rocky ravine, course S. Ascend.
net marri	34.00	Top of spur, slope S. Descend.
LEL TO-		Difference between masurements of 80 chs. by two sets
White an		of chainmen is 16 lks. Position of middle point by
	-1216	first set 80.08 chs. By 2nd set 79.92 chs.
		Mean of which is
5650	80.00	North 150 lks. from the tangent + correction 154 lks.=
was in	y make a	304 lks.
		Set a sandstone 32x14x6 ins. 22 ins. in the ground at
ort.one	ABCCOA	foot of cliffs for 65th mile cor. Marked UTAH on N.
		37 N. L. on E. ARIZ. on S. and 65 M. on the W. faces.
***	. W E .	Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
-		of cor. Pits impracticable.
nts v		A cedar tree 10 ins. diam. bears N. 82° W. 38 lks.
		dist. marked UTAH 65 M. B.T. No other trees with-
the BR.		in limits suitable to mark.
		Land mountainous, rough and broken.
es of the		Soil very rocky, 4th rate.
		Timber, scrub cedar, yellow pine and pinon.
is wand		Barometer 5650 ft. Thermometer 50°.
	no hi	April 16th, 1901.
	nepart ,	The state about the state and state
4-24	an .	April 17th, 1901, at 5h. 43m, A.M. 1.m.t. at the 65th
	.00	Mile cor. I observe Polaris at eastern elongation
	. 7.686	in accordance with instructions in the manual and
	- bear	mark a line thus determined by a point on a plug
		driven in the ground north of my station.
		At 7h.15m. A.M. I lay off the azimuth of Polaris
		1° 31.7' to the west and mark the true meridian

thus found by a point on a plug driven in the

	ALTITUDE	CHAINS	ground north of my station. The magnetic bearing
			of the said meridian is N. 15° 38' W. This re-
			duced by the table page 100 of the manual gives the
		I tou	mean magnetic declination 15° 35' E.
	native / s		I examine and test the adjustments of the instrument
			and compare the tapes with the standard and find
		. Interes	everything correct and in adjustment. From
			the true meridian I lay off an angle of 90° from the
	TO SEL COMP	Marine.	north to the east for tangent to the parallel. In
	49 512		all these observations I take the mean of four sights
		tunn se	reversing the telescope at each sight.
			66th Mile.
0	ME DIE	Rolltein	East on the tangent to the parallel.
			Leave timber bears N. and S. Thence over valley
	Figure		land.
	AL IN TA	27.50	Wagon road from Pipe Springs to Long Valley bears
	mining ,		N. E. and S. W.
		29.50	Ascend rolling hills, bears N. E. and S. W. Enter
			scattering timber.
		in in wa	Difference between measurements of 80 chs. by two
	-404		sets of chainmen is 10 lks. Position of middle
			point by first set 80.05 chs. By 2nd set 79.95 chs.
			The mean of which is
	5600	80,00	North .76 of 1k. from the tangent + correction 11 1ks.=
		. walle	11.76 lks.
			Set a sandstone 34x14x7 ins. 6 ins. in the ground to
			bed rock for 66th mile cor. Marked UTAH on N. 37 N.L.
			on E. ARIZ. on S. and 666 MM. on the W. faces.
	Troan s		Raised a mound of stone 5 ft. base 2 ft. high around
	49		the cor. and raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
Name and Address of the Owner, where	THE PERSON	Larran I	ft. high east of cor. Pits impracticable.
-	-	(to the (Trees too rough to mark for bearing trees.
-			Land rolling.
-	1		Soil sandy and rocky, 3rd rate.
-	0.000		

LTITUDE	CHAINS	Vegetation, grass and sage, and scattering cedar
	. 101	and pinon.
3 T&TI		Barometer 5600 ft. Thermometer 46°.
		67th Mile.
14 .		S. 89° 59' E. on tangent to the parallel.
5		Ascend.
	3.50	Top of ridge about 50 ft. high bears N. and S.
		Descend.
1	10.00	Bottom of draw, drains N. Ascend.
	24.00	Top, of rocky ridge, bears N. and S. about 800 ft.
		above draw.
	30.00	Top of cliff bears N. W. and S. E. Descend over brok
		en rock cliffs.
	Con many	Difference between measurements of 80.00 chs. by
		two sets of chainmen is 22 lks. Position of middle
		point by 1st set 80.11 chs. By 2nd set 79.80 chs.
		The mean of which is
5700	80.00	North 3 lks. from the tangent + correction 22 lks.=
	105 34 "	25 lks.
909	er mother .	This point falls on smooth, bare rock, Marked the point
gapt .	de un ac	with a cross, thus: 67 M. ARIZ. 37 N. L.
	10.0	for the 67th mile cor. Marked UTAH on N. 37 N. L.
	and the state of	on E. ARIZ. on S. and 67 M. on W. of the cross.
	aller ager	Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
		of cross. Pits impracticable. This cor. comes
		on smooth bare rock, sloping S. W. about 200 ft.
		above the head of a little valley that opens to the
		S. W.
		Land mountainous, rough and broken.
		Soil rocky, 4th rate.
		Timber, scattering scrub cedar and pinon.
		Barometer 5700 ft. Thermometer 50°.
		THE THE PARTITION OF TH

ALTITUDE	CHAINS	68th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Ascend over rocky S. W. slope, through scattering
		timber.
	12.00	Top of ridge bears N. and S. Descend.
	33.00	Foot of slope, enter little valley, bears N. E. and
		S. W.
	35.00	Dry gulch, course S. W.
	45.00	Wagon trail, course N. E. and S. W.
	47.00	Leave valley, course N. E. and S. W. Ascend.
	on sens	Difference between measurements of 80 chs. by two
		sets of chainmen is 16 lks. Position of middle point
		by 1st set 80.08 chs. By 2nd set 79.92 chs.
		Mean of which is
5710	80.00	North 7 lks. to the tangent + correction 33 lks.=
with the		40 lks.
Ladore		Set a sandstone 31x16x6 ins. 21 ins. in the ground
		for 68th mile cor. Marked UTAH on tNo E. 37 N. L.
-		on E. ARIZ. on S. and 68 M. on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
	A STATE OF	high east of cor. A cedar tree 10 ins. diam. bears
		S31° 30' E. 88 lks. dist. marked ARIZ 68 M. B.T. A
A. Cr.		cedar tree 12 ins. diam. bears S. 55° 10' W. 71 lks.
		dist. marked ARIZ. 68 M. B.T. A cedar tree 10 ins.
		diam. bears N. 42° 15' W. 85 lks. dist. marked UTAH
	MEST A PLAN	68 M. B.T. No other trees within limits suitable
		for bearing trees.
	THE STATE OF	Land mountainous, rocky and broken.
		Soil sandy and rocky, 4th rate.
		Timber, scrub cedar, pinon and yellow pine and live-
	1134	-oak brush.
		Barumeter 5710 ft. Thermometer 60°.

_	20021		DELIVER THE STATE OF OTHER MADE THE TERRITORY OF INCLUSION.
	ALTITUDE	CHAINS	69th Mile.
	A 4 1 1 1 1		S. 89° 58' E. on the tangent to the parallel.
			Ascend through scattering pine timber.
		5.00	Top of spur, slope N. Descend.
		20.00	Dry ravine, course N. Ascend. About 100 ft below
	rappet 1		top of spur. Water pockets about \(\frac{1}{4} \) mile S.
	and pissi	CONTRACTOR OF	Difference between measurement of 80 chs. by two
	control (sets of chainmen is 18 lks. Position of middle point
	revised to		by 1st set 80.09 chs. By 2nd set 79.91 chs.
	, 300 B C	25.30-1	The mean of which is
	6175	80.00	North 12 lks. from the tangent + correction 44 lks.=
			56 lks.
	2 11 11 5 - 613	I .T and	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	mits Kin	ong mane	at the bottom 3 ft. in the ground for the 69th mile
	2" + 116	A AN SINGULA	cor. A brass cap on the top of the pipe has raised
		2910 (2.2)	letters UTAH on N. ARIZ. on S. and 69 M. stamped in
			the center. Dug pits 36x36x18 ins. N. S. E. and W.
			of the cor. 6 ft. dist. and raised a mound of earth
			5 ft. base 2 ft. high around the post.
			A piñon tree 6 ins. diam. bears S. 65° 45' E. 17 lks.
		×	dist. marked ARIZ. 69 M. B.T. A pinon tree 12 ins.
			diam. bears N. 46° 10' W. 71 lks. dist. marked UTAH
			69 M. B.T. No other trees within limits.
		- 196	Land mountainous, rough and broken.
			Soil rocky and sandy, 4th rate.
		1.00	Timber, scrub cedar and pinon, and live-oak brush.
		T T THE	Barometer 6175 ft. Thermometer 66 °.
		Jr. 11. 30	Pages date was date dight time state was time was time.
			70th Mile.
	.1.1		S. 89° 57' E. on tangent to the parallel.
			Ascend over rocky and sandy land through scrub timber.
		2.00	Top of high ridge bears N. and S. about 20 ft. above
			the cor. Descend along S. E. slope.
			Difference between measurements of 80 chs. by two

ALTITUI	DE CHAINS	sets of chainmen is 12 lks. Position of middle
	I DELLEY O	point by 1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
5950	80.00	North 19 lks. from the tangent + correction 55 lks.=
and the second	100000	74 lks.
	-18 or	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
The same	Burgania.	at the bottom, 3 ft. in the ground for 70th mile cor.
derling on		A brass cap on the top of the pipe has raised letters
	ohi ta.	UTAH on N. ARIZ, on S. and 70 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
The and		dist. and raised a mound of earth 5 ft. base 2 ft.
		high around the post.
nenshrt.	E18 3500	A cedar tree 10 ins. diam. bears N. 34° E. 124 lks.
eria 3	ede but	dist. marked UTAH 70 M. B.T. and a cedar tree 8 ins.
baltitier.	Barrer St	diam. bears S. 36° W. 81 lks. dist. marked ARIZ. 70
	Market Str	M. B.T. No other trees within limits suitable to
, William		mark.
A Partie	10 10 10 10 10 10 10 10 10 10 10 10 10 1	Land mountainous.
		Soil sandy, 3rd rate.
. MIT IT	A 136 -	Timber, scrub pinon, cedar and live oak.
	Part 16	Barometer 5950 ft. Thermometer 70°.
		date filtre same date som date filtre jame jame som ente ent ente ente ente ente ente ente
		71st Mile.
		S. 89° 57' E. on tangent to the parallel.
		Descend gradually over rolling sand hills.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 7 lks. Position of middle point by
		1st set $80.03\frac{1}{2}$ chs. By 2nd set $79.96\frac{1}{2}$ chs.
		The mean of which is
5930	80,00	North 27 lks. from the tangent + correction 66 lks.=
	problem to the	97 lks.
		Set an iron pipe 2 ins. diam 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 71st mile cor.
		A brass cap on top of the pipe has raised letters UTAH
		on N. ARIZ. on S. and 71 M. stamped in the center.
A RESIDENCE		Dug pits 36236x18 ins. N. S. E. and W. of cor.

2	0			
1		0	-	

A	LTITUDE	CHAINS	and 6 ft. dist. Raised a mound of earth 5 ft.
			base 2 ft. high around the post.
			A cedar tree 10 ins. diam. bears N. 56° 15' E. 78
			lks. dist. marked UTAH 71 M. B.T. A cedar tree 12
			ins. diam. bears S. 48° 40' W. 119 lks. dist. Marked
			ARIZ. 71 M. B.T. A cedar tree 10 ins. diam. bears
			N. 27° W. 58 lks. dist. marked UTAH 71 M. B.T.
		And Park And	No tree S. E. within limits suitable to mark.
			Land rolling.
			Soil sandy, 3rd rate.
			Timber: scrub piffon and cedar, live oak and sage brush.
			Barometer 5930 ft. Thermometer 73°.

			72nd Mile.
			S. 89° 56' E. on tangent to the parallel.
			Descend gradually through scrub timber.
		40,00	Dry gulch, course S. E. Ascend.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
		200	by 1st set 80.02 chs. By 2nd set 79.98 chs.
1			The mean of which is
	5875	80.00	North 37 lks. from the tangent + correction 77 lks.=
			114 1ks.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 72nd mile cor.
			A brass cap on top of the pipe has raised letters UTAH
			on N. ARIZ. on S. and 72 M. stamped in the center.
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		- 3447	6 ft. dist. Raised a mound of earth 5 ft. base 2
			ft. high around the post. Trees too rough to
			mark for bearing trees.
			Land rolling.
			Soil sandy, 3rd rate.
			Timber: scrub cedar and pinon; brush, live oak and
	-3		sage.
	4		sage.

			Miles and Aller
	ALTITUDE	Chains	Barometer 5875 ft. Thermometer 75°.
			The Market with a surrough of the fact of the country in the surrough of the s
	in .	107 05.	73rd Mile.
			S. 89° 55' E. on the tangent to the parallel.
	Market .		Descend gradually along S. E. slope through scrub
	divinidi.	darke est	cedar timber.
		73.00	Bottom of dry ravine, course S. E. Wagon road bears
			N. W. and S. E. follows general course of ravine.
			Ascend.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 10 lks. Position of middle point by
			1st set 80.05 chs. by 2nd set 79.95 chs.
			The mean of which is
	5600	80.00	North 49 lks. from the tangent + correction 88 lks.=
			137 lks.
			Set a sandstone 33x18x6 ins. 22 ins. in the ground
			for 73rd mile cor. Marked UTAH on N. 37 N.L. on E.
			ARIZ. on S. and 73 M. on W. faces. Dug pits 36x36x18
			ins. N. S. E. and W. of cor. 6 ft. dist. and raised a
			mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
			A cedar free 8 ins. diam. bears N. 31º 10' E. 136
			1ks. dist. marked UTAH 73 M. B.T. A cedar tree 6 ins.
			diam. bears S. 70° 30' W. 35 lks. dist. marked ARIZ.
			73 M. B.T. A cedar tree 10 ins. diam. bears N. 16°
			20' W. 124 lks. dist. marked UTAH 73 M. B.T. No tree
			S. E. within limits suitable to mark.
			Land rolling.
			Soil sandy, 3rd rate.
			Timber: scrub cedar and pinon; brush, love-oak and
			sage.
1			Barometer 5600 ft. Thermometer 700
-			April 17th, 1901.
-			Gains sourn claims distrit states claims claims claims
1	THE PARTY N		MARKET AND THE SAME OF THE SAM

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	ALTITUDE	Chains	I test and carefully adjust the transit as to col-
			limation levels and stadia wires and compare the steel
			tapes with the standard, and find them correct.
	- 11111		74th Mile.
			S. 89° 55' E. on tangent to the parallel.
			Ascend over mountainous land and through timber.
		30.00	Top of spur, slope S. W.
		36.130.1	From this point use stadia measurements.
			Angle 25° + Rod 11.53 ft. constant 82.14 x 1153 =
		in a To	947.07 + C = 1.04 = 948.11 ft. = 14.36 chs. + 30 chs.=
	get i.i.		44.36 chs.
	6600	44.36	Top of cliffs, course N. and S. about 1000 ft.
	h more	-11 do	above last cor. Thence by tape measurement. Descend
	6400	52.00	Bottom of deep rocky gulch, course S. Ascend.
	6850	30.00	Falls among broken rocks. Impracticable to establish
			the cor.
		April 1971	Land mountainous.
			Soil sandy and rocky, 4th rate.
	15.03	a engli	Timber, piñon, yellow pine and cedar, live oak, sage
	. Links	L DAY A	and squaw brush.
	UTP	and .	en la
	153 .		75th Mile.
		7.0.4	S. 89° 54' E. continuing on tangent to parallel.
		when ?	Ascend over rocks.
	6910	25.14	North 66 lks. from the tangent + Correction 102 lks.=
			168 lks.
			Set a sandstone 36x18x6 ins. 24 ins. in the ground
	trad an	: ***	for 74th mile cor. Marked UTAH on N. 37 N. L. on
			E. ARIZ. on S. and 74.314 M. on W. faces. Dug pits
			36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist. and
			raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
			of cor. A yellow pine tree/6 ins. diam. bears N. 35°
			E. 108 lks. dist. marked UTAH 74.314 M. B.T. A yel-
			low pine tree 24 ins. diam. bear S. \$80 E. 35 lks.
			dist. marked ARIZ. 74.314 M. B. T.
	1		

4			
	ALTITUDE	CHAINS	No other trees within limits suitable to mark for
	ita och	arman c	bearing trees.
			Barometer 6910 ft. Thermometer 50°.
			Ascend over sandy and rocky land through timber.
	7060	41.00	Top of sand mountain, sometimes called Moquitch
	. 50	Mar Kuss	mountain, bears N. and S. Descend gradually.
	Ans.		Difference between measurements of 54.86 chs. by two
		L ma	sets of chainmen is 8 lks. Position of middle point
	-	dala.	by 1st set 54.90 chs. By 2nd set 54.82 chs.
	EGO DE	. inc t	The mean of which is 54.86 + 25.14 chs. =
	6975	80.00	North 76 lks. from the tangent + correction 110 lks.=
		2000	186 lks.
	ion and		Set a sandstone 42x14x6 ins. 28 ins. in the ground
		Mary or Real	for 75th mile cor. Marked UTAH on N. 37 N. L. on F.
	throma.	THE WANTS	ARIZ. on S. and 75 M. on the W. faces. Dug pits
			36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
			Raised a mound of earth $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft high east of
			cor.
	01,000,1	en our	A piñon tree 10 ins. dia. bears N. 36° 30' E. 72 lks.
			dist. marked UTAH 75 M. B.T. A pinon tree 10 ins.
			diam. bears S. 19° 30' E. 74 lks. dist. marked ARIZ.
			75 M. B.T. A piñon tree 10 ins. diam. bears S. 67°
			30' W. 136 lks. dist. marked ARIZ. 75 M. B.T. A
			yellow pine tree 30 ins. diam. bears N. 32° 30' W.
		2.000000	246 lks. dist. marked UTAH 75 M. B.T.
			Land mountainous.
	White or		Soil sandy and rocky, 4th rate.
	700		Timber: yellow pine, pinon and scrub cedar; live oak
			and squaw brush.
			There is some good saw timber on this mountain.
	TO PART PA		Barometer 6975 ft. Thermometer 60°.
w.	K . W . W		With larger and a first state gains about these states states gains glass glass
	Maria I		76th Mile.
	1.34		S. 89° 53' E. on tangent to the parallel.
			Ascend over rocky land through timber.
The second second second			

ALTITUDE	Chains	CONTRACTOR OF STATE OF THE PARTY OF THE PART	
	12.00	Top of ridge bears N. E. and S. W. Descend.	
	50.00	Wall of canon about 5 chs. N. drops of perpendicularly	
		bears N. W. and S. E.	
	60.00	On wall of canon bears N. W. and S. E. Thence along	
		wall.	
6750	79.00	Wall turns to south. Descend perpendicularly	
		300 ft. Thence descend over cliffs.	
		Difference between measurements of 79 chs. by two	
		sets of chainmen is 10 lks. Position of middle point	
	an Ami	by 1st set is 79.05 chs. By 2nd set 78.95 chs.	
		The mean of which is 79.00 chs. stadia measurement	
		from this point Angle 22° - Rod 12.995 ft. Double =	
		2599 ft. Constant 85.97 x 2599 = 2234.36 + C = 1.06=	
- Norma		2235.42 ft. = 33.86 chs.	
	80.00	Comes on cliff. Inaccessable. Impracticable to	
		establish corner.	
		Land mountainous, rough and broken.	
		Soil rocky, 4th rate.	
		Timber: yellow pine, cedar and pinon.	
		77th Mile.	
		S. 89° 53' E. continuing on tangent to the parallel.	
		Descend.	
	32.86	Stadia point; thence by tape measurement.	
5600	36.28	North 100 lks. from the tangent + correction 126 lks.=	
		226 lks.	
		Set a sandstone 30x13x12 ins. 20 ins. in the ground	
		for 76th mile cor. Marked UTAH on N. 37 N.L. on E.	
		ARIZ. on S. and 76.453 M. on W. faces. Raised a	
		mound of stone 5½ ft. base 2½ ft. high east of cor.	
		Pits impracticable. A pinon tree 10 ins. diam. bears	
		N. 20° 10' E. 13 1ks. dist. marked UTAH 76.453 M. B.T.	
		A pinon 10 ins. diam. bears S. 24° 10' W. 36 lks.	
		dist. marked ARIZ. 76.453 M. B. T. Other trees too	
		rough to mark for bearing trees.	

elitti illi		
ALTITUDE	Chains	This cor. stands at foot of cliff on spur sloping
	Mackett	S. E.
		Barometer 5600 ft. Thermometer 60°.
		April 18th, 1901.
	and the same	I examine the adjustments of the instrument and
		compare the tapes with the standard and find all
7 7	waters the	correct. Descend through timber.
	42.28	Dry ravine, course N. E. Ascend along N. slope.
owd I	a nice	Difference between measurements of 43.72 chs. by two
SHI MEN	the last	sets of chainmen is 5 lks. Position of middle point
August.	project, h	by 1st set $43.74\frac{1}{2}$ chs. By 2nd set $43.69\frac{1}{2}$ chs.
from	ershiates.	The mean of which is 43.72 chs. + 36.28 chs. =
5775	80.00	North 110 lks. from the tangent + correction 132 lks.=
40.2 4	D = 20.	242 lks.
		Set a sandstone 33x10x 1 ins. on bed rock for 77th
163 -0.2	feet toss	mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 77 M. on W. faces. Raised a mound of stone
		5 ft. base 2 ft. high around the cor., and raised a
		mound of stone $5\frac{1}{2}$ base $2\frac{1}{2}$ ft. high east of cor. Pits
		impracticable. Trees too rough to mark for bearing
		trees.
		Land mountainous, rough and broken.
rivelin.	W. SEEF P.	Soil rocky, 4th rate.
		Timber: yellow pine, cedar and piñon.
	. 150	Barometer 5775 ft. Thermometer 500.
		78th Mile.
	mir or .	S. 89° 52' E. on tangent to the parallel.
	LT TO	Ascend along steep N. slope through scrub timber.
	9.00	Top of spur slope N. E. Descend.
*	22,00	Foot of spur, bears N. and S. about 300 ft. below top.
		Descend gradually.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 14 lks. Position of middle point by
		1st set 80.07ch, By 2nd set 79.93 chs.

2 0 0 1 (
ALTITUDE	CHAINS	The mean of which is
5310	80,00	North 129 lks. from the tangent + correction 143 lks.=
- hoo	107700	272 lks.
o sam	a made	Set a sandstone 36x12x10 ins. 24 ins. in the ground
		for the 78th mile cor. Marked UTAH on N. 32 N. L. on
		E. ARIZ. on S. and 78 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	4 7 7	Pits impracticable.
, 1177	an hra	A cedar tree 12 ins. diam. bears N. 36°30' E. 178
		lks. dist. marked UTAH 78 M. B.T. A cedar tree 10
		ins. diam. bears S. 43° E. 152 lks. dist. marked ARIZ.
		78 M. B.T. A cedar tree 8 ins. diam. bears S. 52°
i en	de Ju .	10' W. 118 1ks. dist. marked ARIZ. 78 M. B.T. No tree
va: nt	co Lépant	N. W. within limits suitable to mark.
-0101	Lucines, e	Land mountainous.
or Eq. B. /		Soil rocky, 4threate.
VA AS	24	Timber: scrub pinon and cedar, fit only for fire wood
Just m		and fence posts.
s ilye	An pour	Barometer 5310 ft. Thermometer 50°
. god	arv sa	State State (finite result game game state from State)
H LPG.	H nk as	79th Mile.
imet to	1000	S. 89° 52' E. on tangent to the parallel.
1 44		Descend gradually over rolling land.
is morth	16.00	Dry gulch, course S. E.
. 20	40.00	Leave timber, bears N. and S.
Mie Ty	F + 482.8 6	Difference between measurements of 80 chs. by two
	fully life	sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5050	80.00	North 150 lks. from the tangent + correction 154 lks.=
A . 11 . 11	March March	304 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
, ,	14.37	at the bottom 3 ft. in the ground for 79th mile cor.
1-4-3		A brass cap on the top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 79 M. stamped in the
Transfer Ma		

ALTITUDE CHAINS

center. Raised a mound of stone 5 ft. base 2 ft.
high around the post. Pits impracticable.
This corner stands on the west bank of Cottonwood
Creek. Cottonwood spring in creek bottom about 5
chs. north.

Land rolling.

Soil sandy, 3rd rate.

Timber: scrub cedar and pinon.

Vegetation: east 1 of mile grass, sage and cactus.

Barometer 5050 ft. Thermometer 50°.

April 19th, 1901.

April 20th, 1901, at the 79th mile cor. at 5h 3lm A.M.

1.m.\$. I observe Polaris at eastern elongation in day—
light, star plainly visible through the transit tele—
scope. I mark the line so found by a point on a plug
driven in the ground north of my station. At 7h A.M.

I lay off the azimuth of, Polaris 1° 3l.&' to the west
and mark the true meridian thus determined by a point
on a plug driven in the ground north of my station.

The magnetic bearing of the said meridian is N. 15° 28'

W. This reduced by the table page 100 of the manual
gives the mean magnetic declination 15° 25' E. I
now lay off an angle of 90° from this meridian from the
north to the eastfrom the tangent to the parallel.

In all these operations the mean of at least four sights
are taken, reversing the telescope at each sight.

80th Mile.

East on the tangent to the parallel.
Descend.

- 0.50 Dry bed of Cottonwood creek, 50 lks. wide, course S. E. Ascend.
- 4.13 Stockage fence bears N. about 5 chs. and S. 1 ch...'
 Enter enclosure.

DUUN	DRILL TIME	DELINIENT THE STATE OF CLAIR AND THE LEMMITORS OF ARRESTAN.
ALTITUDE	Chains 7.67	East fence corral or enclosure bears N. about 5 chs.
		and S. about 1.25 chs. Ascend. enter scattering
14		timber, bears N. and S. Wagon trail N. and S.
	20.00	On top of bench about 40 ft. above the creek, bears
_		N. and S. Thence over gentle S. slope,
	57.30	Road bears N. W. and S. E.
-		Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
-, -		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5100	80.00	North .76 of lk. from the tangent + correction ll lks.=
		11.76 lks.
<u>.</u>		Set an iron pipe 2 ins. diam. 5 ft. long flanges at
1		the bottom 3 ft. in the ground for the 80th mile cor.
		A brass cap on the top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 80 M. stamped in the center
	: 1	Raised a mound of stone 5ft base 2 ft high around the
		post. Pits impracticable.
		A cedar 10 ins. diam. bears N. 28° 30' W. 173 lks.
		dist. marked UTAH 80 M. B.T. No other treeswithin
		limits suitable to mark.
		A south salient of the vermillion cliffs bears N. 11°
		45' E. about la miles dist.
		Land rolling.
	, 10	Soil sandy and stony, 3rd rate.
		Timber: scattering scrub cedar.
		Vegetation: grass, sage and cactus,
		Barometer 5100 ft. Thermometer 45°.
		differ to a gape dated both draw game game comm.
		81st Mile.
		S. 89° 59' E. on tangent to the parallel.
7		Over gently rolling land, through scattering timber.
1	2.00	Telephone line from Kanab to Pipe Springs bears N.E.
		and S. W.
N		Difference between measurements of 80 chs. by two sets
		of chainmen is 4 lks. Position of middle

ALTITUDE	CHAINS	point by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5050	80,00	North 3 lks. from the tangent + correction 22 lks. =
		25 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long flanges
		at the bottom 3 ft. in the ground for 81st mile cor.
7		A brass cap on top of the pipe has raised letters UTAH
Philips 1	C58122	on N. ARIZ. on S. and 81 M. stamped in the center.
		Raised a mound of stone 5 ft. base 2 ft high around
		the post. Pits impracticable.
	SO COLORES	A cedar tree 6 ins. diam. bears N. 63° E. 76 lks. dist.
		marked UTAH 81 M. B.T. A cedar tree 24 ins. diam.
40.00		bears S./7 ° 10' E. 226 lks. dist. marked ARIZ. 81 M
-100000	tor days	B.T. A cedar tree 10 ins. diam. bears N. 82° W. 84
mba tho	hootes	lks. dist. marked UTAH 81 M. B.T. No tree within
PATRICE !		limits S. W. suitable to mark. This corner stands
Ser be	ore int	on W. bank of dry gulch, that runs S. E:
		Land rolling.
. 44	e eve	Soil sandy and stony, 3rd rate.
The state of the s	PARTY OF	Timber: scrub cedar.
		Vegetation: grass and sage.
WEE SE	ATTOTAL ST	Barometer 5050 ft. Thermometer 48°.
		82nd Mile.
		S. 89° 59' E. on tangent to the parallel.
	0.50	Descend.
	0,50	Dry gulch, course S. E. Thence over rolling land Descending radually.
	90.00	
	20.00	Dry gulch, course S. E.
	41,00	Wagon road bears N. E. and S. W. timber, bears N. E. and S. W.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 2 1ks. Position of middle point by
		1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is
		11-0 Modit OI WILLOII 18

ALTITUDE	CHAINS	Algerena Charm
5000	80.00	North 7 lks. from the tangent + correction 33 lks.=
		40 lks.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 82nd mile cor.
	Ter _ m d l	A brass cap on top of the pipe has raised letters UTAH
		on N. ARIZ. on S. and 82 M. stamped in the center.
	0.52	Dugapits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		distant. Raised a mound of earth 5 ft base 2 ft
		high around the post.
	n d one	Land rolling.
		Soil sandy, 3rd rate.
	. Ivan	Vegetation: grass and sage, scattering scrub cedar.
- tree	erd . eute	Barometer 5000 ft. Thermometer 52°.
- tog ni	10 27 50	maliffred . Marc o parametration made
	mile t	83rd Mile.
		S. 89° 58' E. on tangent to the parallel.
	n merke	Descend gradually over gently rolling land.
	33.35	Wagon road bears N. E. and S. W.
	70.00	Top of bench bears N. and S. Descend.
	- trail	Difference between measurements of 80 chs. by two sets
	c. (1.0 100	of chainmen is nothing.
- Val	r st ones	The mean is
4900	80.00	North 12 lks. from the tangent + correction 44 lks.=
	Landybar	56 lks.
ar con		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
n mak	n home	at the bottom 3 ft. in the ground for 83rd mile cor.
To a second	outual .	A brass cap on top of pipe has raised letters UTAH
	Land.	on N. ARIZ. on S. and 83 M. stamped in the center.
	e hand	Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. Raised a mound of earth 5 ft. base 2ft. high
	To bullets	around post.
, , ,		Land gently rolling.
	Ho. ca	Soil sandy, 3rd rate.
		Vegetation: grass, sage and greasewood.
		Barometer 4900 ft. Thermometer 60°.
		Planty Public Transport Street

	DOOL	WINT DIN	L DETWEEN THE STATE OF OTAH AND THE TERRITORY OF ARIZOVA.
	ALTITUDE		84th Mile.
	. 8.31	KE moth	S. 89° 57' E. on tangent to the parallel.
			Across Kanab creek flats.
	torsett, \$12	17.00	West bank of Kanab creek bears N.E. and S. W.
	A 700 P	Itm anno	About 20 feet high.
	MO BEO	17.50	Kanab creek, a muddy stream about 25 lks. wide, and
	* 1503	TODIAN.	3 ins. deep, course S. 10° W.
	. 17 0.	22.50	East bank of Kanab creek about 20 feet high bears
		Leann r	N. E. and S. W. Ascend gradually.
		45.50	Top of ridge, bears N. and S. Descend.
		61.50	Wagon road from Kanab to Fredonia, bears N. and S.
			Ascend.
		64.00	Top of rocky spur, shope S. W. Descend.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5100	80,00	North 19 lks. from the tnagent + correction 55 lks.=
			74 lks.
		1	Set a section of the trunk of a petrified tree 36x10x
		20 . 11311	10 ins. on bed rock for 84th mile cor. Marked UTAH on
			N. 37 N.L. on E. ARIZ. on S. and 84 M. on the W.
		6	faces. Raised a mound of stone 5 ft base 2 ft high
			around the cor. Raised a mound of stone $5\frac{1}{2}$ ft base
			21 ft high east of cor. Pits impracticable.
			A cedar tree 6 ins. diam. bears N. 39° 30' E. 167 lks.
	. 200 0		dist. marked UTAH 84 M. B.T. A piñon tree 8 ins.
			diam. bears S. 72° 30' E. 28 lks. dist. marked ARIZ.
	. Till		84 M. B.T. A cedar tree 5 ins. diam. bears N. 35°
			30' W. 72 lks. dist. marked UTAH 84 M. B. T. Jegstetion gras sage and scattering estion
		,	otree S. W. within limits suitable to mark. This cor.
			stands in a little rocky hollow that opens to the
			south, from this cor. the stone marked B. L. in N. W.
-			cor. in Tithing House yard in town of Kanab
	Walter Bridge		

ALTITUDE

CHAINS

bears N. 4° 33' W. 271.10 chs. dist. by traverse line measured on the ground. The latitude and longitude of a point in the street 76 ft. west of this stone is given by Wheeler as lat. 37° 2' 25.43". long. 112° 31' 39" in the notes sent me by the Hon. Commissioner from Washington. The same point is given as lat. 37° 2' 55.85" long. 112° 31' 50.83" in field notes received from the U. S. Surveyor General of Utah at Salt Lake. Our line agrees very closely with the latitude as given by the Salt Lake office. We make the line 270.24 chs. south of the given point by measurement, while the difference of latitude would This shows our line to be 81 indicate 269.43 chs. lks. south of the 37th parallel, as indicated by the figures received from the Salt Lake office.

April 20th, 1901.

85th Mile.

I examine and carefully adjust the transit in all its parts, and compare the tape lines with the standard.

S. 89° 57' E. on tangent to the parallel.

Ascend over rolling land.

Top of ridge bears N. and S. Thence along the north 34.40 slope.

> Difference between measurements of 80 chs. between two sets of chainmen is 12 lks. Position of middle point by 1st set 80.06 chs. By 2nd set 79.94 chs. The mean of which is

80.00 North 27 lks. from the tangent + correction 66 lks= 93 lks.

> Set a conglomerate stone 36x10x6 ins. 24 ins. in the ground for 85th mile cor. Marked UTAH on N. 3L N. L. on E. ARIZ. on S. and 85 M. on the W. faces.

5175

ALTITUDE	CHAINS	Raised a mound of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft high east of
		cor. Pits impracticable.
		Land rolling.
		Soil sandy and stony, 3rd rate.
		Vegetation: grass and sage.
		Barometer 5175 ft. Thermometer 50°.
		The $\frac{1}{4}$ sec. cor. on N. and S. line between secs. 10
		and 11 T. 44 S. R. 6 W. Salt Lake Meridian bears S. 74°
		22' E. 20.77 chs. dist. This corner is a conglomerate
		sandstone 10x12x6 ins. above ground, marked \(\frac{1}{4} \) on W.
		face.
		A flag-staff on south salient of Vermillion cliffs a
		Wheeler latitude point, called Mansard, bears N. 55°
		E.
		86th Mile.
		S. 89° 56' E. on tangent to the parallel.
	70 00	Over rolling hills and along north slope.
	10.00	Enter scrub cedar timber, bears N. and S.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 14 lks. Position of middle point by
FARE		1st set 80.07 chs. By 2nd set 79.93 chs.
5850		The mean of which is
5250	80.00	North 37 lks. from the tangent + correction 77 lks.=
		114 1ks.
		Set a conglomerate stone 30x12x8 ins. 20 ins. in the
		ground for the 86th mile cor. Marked UTAH on N. 37 N.
		L. on E. ARIZ. on S. and 86 M. on W. faces. Raised
		a mound of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of cor.
6 Made	10,000	Pits impracticable.
		A cedar tree 6 ins. diam. bears N. 70° 40' E. 73
		lks. dist. marked UTAH 86 M. B.T. A cedar tree 12
		ind. diam. bears S. 44° 20' E. 64 lks. dist. marked
		ARIZ. 86 M. B.T. A cedar tree 10 ins. diam. bears
		S. 81° 15' W. 111 1ks. dist. marked ARIZ. 86 M. B.T.

2001		a partial time care of came and and analysis of and came
ALTITUDE	Chains	A cedar tree 6 ins. diam. bears N. 47° 30' W. 24 lks.
		dist. marked UTAH 86 M. B.T.
		Land rolling.
		Soil sandy and rocky, 3rd rate.
		Vegetation: grass and sage and scrubby cedar timber,
		good only for fire wood and fence posts.
		Barometer 5250 ft. Thermometer 55°.
		Character Indication . Integ . int recomits
		87th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Descend over rolling land through timber.
	2.00	Brow of bluff bears N. W. and S. E. Descend.
	12.00	Foot of bluff bears N. W. and S. E. about 75 ft.
		below top. Thence across little valley, leave timber,
		bears N. W. and S. E.
	21.00	Wagon road from Johnson Creek to Fredonia, bears N. E.
		and S. W.
6	22.00	Dry gulch, course S. W.
1 1 1 1 1 1 1 1 1	45.00	Leave little valley, ascend bluff, bears N. E. and
	mr. in	S. W.
	48,00	Top of bluff about 60 ft. high, bears N. E. and S. W.
		Enter scattering timber, bears N. E. and S. W. Thence
		along N. slope.
D-16/05	mild to	Difference between measurements of 80 chs. by two sets
. 1 100		of chainmen is 10 lks. Position of middle point by
7 LX 3000	elle w	1st set 80.05 chs. By 2nd set 79.95 chs.
	. 1993	The mean of which is
5275	80.00	North 49 lks. from the tangent + correction 88 lks.=
		137 lks.
		Set a conglomerate stone 48x14x6 ins. 32 ins. in the
		ground for the 87th mile cor. Marked UTAH on N.
. 20 30	a de la company	37 N. L. on E. ARIZ. on S. and 87 M. on W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. and raised a mound of earth $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft.
		high east of cor. A cedar tree 10 ins.

	DUUN	DANI LINI	E DETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
	ALTITUDE	CHAINS	diam. bears N. 81° E. 115 lks. dist. marked UTAH 87 M.
			B.T. A cedar tree 8 ins. diam. bears S. 76° 30' E.
			38 lks. dist. marked ARIZ. 87 M. B.T. A cedar tree
			6 ins. diam. bears S. 14° W. 107 lks. dist. marked
	A TOLET		ARIZ. 87 M. B.T. A cedar tree 8 ins. diam. bears N.
			43° W. 98 lks. dist. marked UTAH 87 M. B.T.
			A flag staff on south salient of Vermillion cliffs
			Wheeler lat. point, Mansard, bears N. 39° 18' E.
			Land rolling.
		A	Soil rocky and sandy, 3rd rate.
		- 7	Vegetation: grass, sage and scrubby cedar, timber.
		. 0.797.0	Barometer 5275 ft. Thermometer 58°.
			the Real State of State Sanita and Canal Co. At Land
	COUNTY	Summer.	88th Mile.
			S. 89° 55' E. on tangent to the parallel.
			Over rolling land and through timber.
		26.00	Dry gulch in rocky canon 50 ft. deep, course S. W.
			Difference between measurements of 80 chs. by two sets
	Artist I		of chainmen is 16 lks. Position of middle point by
			1st set 80.08 chs. By 2nd set 79.92 chs.
			The mean of which is
	5350	80,00	North 62 lks. from the tangent + correction 99 lks.=
			161 lks.
			Set a sandstone 30x13x10 ins. 20 ins. in the ground
			for 88th mile cor. Marked UTAH on N. 37 N. L. on E.
		. 10	ARIZ. on S. and 88 M. on W. faces. Dug pits 36x36x
			18 ins. N. S. E. and W. of cor. 6 ft. dist. Raised
		-	a mound of earth $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of cor.
			No trees within limits.
			Land rolling.
-			Soil sandy and rocky, 3rd rate.
			Vegetation: grass, sage and scattering cedar timber.
the same of the sa			Barometer 5350 ft. Thermometer 60°.
-			

ALTITUDE	Chains	89th Mile.
		S. 89° 54' E. on tangent to the parallel.
		Over rolling land, along N. slope, through scrubby
		cedar and piñon timber.
	e _2 07	Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
61.7	1.00	by 1st set 80.04 chs. By 2nd set 79.96 chs.
	61 27	The mean of which is
5500	80.00	North 76 lks. from the tangent + correction 110 lks.=
	2	186 lks.
a est fi	r noston n	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
100	00.00	at the bottom 3 ft. in the ground for 89th mile cor.
homeon		A brass cap on the top of the pipe has raised letters
3 730		UTAH on N. ARIZ. on S. and 89 M stamped in the center.
pale and the		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
ette.		dist. and raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		A cedar treel8 ins. diam. bears N. 81° 40 E 79 lks.
		dist. Marked UTAH 89M B.T. A cedar tree 14 ins.
		diam. bears S. 46° 36' E. 58 lks. dist. marked ARIZ.
		89 M. B.T. A pinon tree 6 ins. diam. bears S. 36°
.9	108 48	20' W. 70 lks. dist. marked ARIZ. 89 M. B.T. A
. i more	tor bitt	pinon tree 14 ins. diam. bears N. 16° 37' W. 61 lks.
And the	0504	dist. marked UTAH 89 M. B.T.
		Land rolling.
	in duties	Soil sandy, 3rd rate.
	Ava desk	Timber, pinon and cedar.
	b	Barometer 5500 ft. Thermometer 580.
		April 21, 1901.
		90th Mile.
		I examine and test the adjustments of the transit and
		compare the tapes with the standard and find them cor-

S. 89° 53' E. on tangent to the parallel.

96

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	ALTITUDE	CHAINS	Ascend over rolling land through timber.
		7.00	Top of sand ridge bears N. and S. Descend.
		21.00	Leave timber, bears N. and S.
		30,00	Dry gulch, course N.
	99.1	45.00	Enter scattering timber, bears N. E. and S. W.
	dagan a	59.80	Dry gulch, course N.
		Andrew De	Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
	edf (di sprim	by 1st set is 80.02 chs. By 2nd set 79.98 chs.
			The mean of which is
	5350	80.00	North 92 lks. from the tangent + correction 121 lks.=
	A MORE O	file less	213 lks.
		Table 1	Set a sandstone 36x12x8 ins. 24 ins. in the ground
			for 90th mile cor. Marked UTAH on N. 37 N. L. on E.
	. 17 1	THE PT.	ARIZ, on S. and 90 M. on W. faces. Raised a mound
		arithment .	of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor. Pits
			impracticable. No trees within limits.
	- 199	100.30	Land rolling.
			Soil sandy, 3rd rate.
	. 11111		Timber: pinon and cedar.
		53219	Barometer 5350 ft. Thermometer 50 .
		5,2-5h	The flag staff called Mansard bears N. 50 30: W.
			The notes describing this point were obtained from the
			U.S. Surveyor General for, Utah at Salt Lake City, and
			read as follows:
			Mansard, a white conspicuous sandstone knob on the
			Vermillion cliffs, $5\frac{1}{2}$ miles east of Kanab and $3\frac{1}{2}$ S.W.
			of Johnson. The station overlooks the road from
			Kanab to Johnson, but cannot be approached with hors-
			es from that side A conoid boss of eroded sand-
			stone was used for a monument, and on this was perch-
			ed a short staff, lat. 37° 2' 52:26" long. 112° 25:
			21.99". This staff can be seen through the tele-
			scope from different points along the boundary line.
			The given latitude places this point 263.93 chs. north

ALTITUDE	Chains	of the 37th parallel. I make it by triangulation
		262.35 chs.
		91st Mile.
		S. 89° 53' E. on tangent to the parallel.
		Along gentle north slope, through scattering timber.
	78.00	Dry gulch, course N.
		Difference between measurements of 80 chs. by two
-		sets of chainmen is 12 lks. Position of middle point
	*	by 1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
5410	80.00	North 110 1ks. from the tangent + correction 132 1ks.=
		242 lks.
		Set a sandstone 38x19x6 ins. 25 ins. in the ground
		for 91st mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. 91 M. on W. faces. Raised a mound of
		stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor. Pits
		impracticable.
		Trees too rough to mark.
		This corner stands on steep rocky N. slope under
		point of rocks.
		Land rolling,
		Soil rocky and sandy, 3rd rate.
		Timber: pinon and cedar.
		Barometer 5410 ft. Thermometer 53°.
		The $\frac{1}{4}$ sec. cor. on N. and S. line, between secs. 10
		and 11 T. 44 S. R. 5 W. Salt Lake meridian bears S.
		73° 47' E. 21.20 chs. dist. This cor. is a sand-
		stone 12x8x3 ins. above ground, marked \(\frac{1}{4} \) on W. face.
		92nd Mile.
		S. 89° 52' E. on tangent to the parallel.
		Along steep north slope.
	3.50	Top of cliff bears N. and S. Leave timber. Descend.
A Charles		

	ALTITUDE	CHAINS	
		8,50	Foot of bluff about 150 ft high bears N. and S.
			Thence descend gradually.
		30.00	Wagon trail bears N. W. and S. E.
			Difference between measurements of 80 chs. by two
	Salarica A		sets of chainmen is 6 lks. Position of middle point
			by Tst set 80.03 chs. By 2nd set 79.97 chs.
		191 .00	The mean of which is
	5220	80.00	North 129 lks. from the tangent + correction 144 lks.=
		, ada	271 lks.
			Set an iron pipe 2 ind. diam. 5 ft. long with flanges
	. 10072 172		at the bottom 3 ft. in the ground for 92nd mile cor.
			A brass cap on top of pipe has raised letters UTAH on
	Taxon o		N. ARIZ. on S. and 92 M. stamped in the center. Dug
	a mp		pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
			Raised a mound of earth 5 ft. base 2 ft. high around
			the post.
			The most westerly point of White cliffs across Johnson
			creek bears N. 38° 20' E. about a mile dist.
			South point of red cliff bears N. 72° 05' W. about
			½ a mile dist.
			Land nearly level, except first 10 chs.
			Soil sandy, and rate.
			Vegetation: grass and sage; scrub cedar on ridge.
			Barometer 5220 ft. Thermometer 60°.
			many case made case while their limit in the
	1000		93rd Mile.
			S. 89° 51' E. on tangent to the parallel.
	N. October		Over rolling, sandy valley land.
		7.90	Johnson creek here dry, 30 lks. wide, banks 12 ft.
178.5			high, course S.
		20.00	A few scattering cedar trees south of the line.
		65.00	Leave valley, enter rolling white hills, bears N. W.
			and S. E. Ascend.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 4 1ks. position of middle point by
			1st set 80.02 chs. By and set 79.98 chs.

A	LTITUDE	CHAINS	The mean of which is
5	300	80.00	North 150 lks. from the tangent + correction 154 lks=
13			304 lks.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		to of	at the bottom 3 ft. in the ground for the 93rd mile
		- and	cor. A brass cap on top of pipe has raised letters
		The state of the s	UTAH on the N. ARIZ. on the S. and 93 M. stamped in
			the center. Dug pits 36x36x18 ins. N. S. E. and W.
		br the	of the cor. 6 ft. dist. Raised a mound of earth 5
		ass mase	ft. base 2 ft. high around the post.
			A stone monument on the top of a red butte bears N.
	n log	1 10	72° 22' E. about ½ mile dist.
	terest t	ine ign d	S. W. point of white cliff east of Johnson creek bears
Land	a est	ort and	N. 16° 19' W. about a mile dist.
	vivo		Corner on 9th Special Standard T. 44 S. R. 42 and 5 W.
			Secs. 7 and 12, bears S. 67° 24' E. 50.07 chs. dist.
	8. (8)		This cor. is a decayed post, notched and marked prop-
	na tor		erly with mound and pits.
	mot		Land mountainous.
			Soil sandy, 3rd rate.
			Vegetation: grass and greasewood and a few cedar trees.
	nist W		Barometer 5300 ft. Thermometer 66°.
	-		Constitution with the state of
	. 60		94th Mile.
	-		S. 89° 51' E. on tangent to the parallel.
	Sate 14		Along south slope over gently rolling white hills.
-011	Land I		Difference between measurements of 80 chs. by two sets
	,	de groz	of chainmen is 8 lks. Position of middle point by
	areits:		1st set is 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
5	450	80.00	North/72 lks. from the tangent + correction 165 lks.=
	AROX:	er har a filter to	337 lks.
	in Mary		Point for the 94th mile cor.
			The Astronomical Station was placed here rather
1			

ALTITUDE CHAINS that

than at the 100th mile cor. because the water at the Navajo well near the 100th mile cor. was found to be unfit for use.

April 22nd, 1901.

Temparary astronomical observatory Nº 3 was South of this fint on favarable ground From april 22 rd to 29th we were employed in making astronomical observations and adjusting the line. For batitude of Station and position of temparary observatory - See page 61

April 29th, 1901, I examine and carefully adjust the instrument and compare the steel tapes with the standard, and find them of cerrect length.

April 30th, 1901, at 4h 51m A.M. 1.m.t. at the point for the 94th mile cor. I observe Polaris at eastern elongation in accordance with instructions in the manual, and mark the line so determined on a plug driven in the ground north of my station.

At 8h A.M. I lay off the azimuth of Polaris 10 31.8' to the west and mark the true meridian so determined on a plug driven in the ground north of my station. bearing
The magnetic, of the said meridian is N. 15° 18' W. This reduced by the table page 100 in the manual gives the mean magnetic declination 15° 15' E. From the said true meridian I lay off an angle of 90° from the north to the east for the tangent to the parallel. In all these operations, the mean of at least four sights was taken with the telescope reversed at each sight. At the point for the 94th mile cor. I set a sandstone shaft 6 ft. long, 15 ins. broad and 12 ins. thick dressed and squared 10 ins. down from the top. for the 3rd Astronomical Monument, set 3 ft. in the ground and marked with letters 12 ins. square, deeply graven in the stone, UTAH on the N. 37 N. L. on E. ARIZONA on S. and 94 M. on the W. faces. Raised a mound of

stone 52 base 2 ft high around the shaft.

ALTITUDE	Chains	Dug pits 36x36x18 ins. N. S. E. and W. of the shaft
		6 ft. dist.
1 1 11 11	7-71-1-10	A round red butte bears N. 37° 30' W. about 25 chs.
, a.a.	THE WAY	dist. A stone monument on top of long red butte
and and		bears N. 70° 15' W. about ½ mile dist.
Quite 1	1,007	Flag staff on flag point top of Vermillion cliffs
,	Just County	north of Navajo well. A point established by Wheeler
102 23	the print	bears N. 41° 05' E. This Astronomical Monument
1		stands in a little valley about 2 miles S.W. of the
		Seepes Springs.
3		Land rolling.
1		Soil sandy, 3rd rate.
		Vegetation: grass and sage.
		Barometer 5450 ft. Thermometer 65°.
		95th Mile.
W. 1		E. on tangent to the parallel.
Fig.		Meross little valley. Descend.
to nation	6,60	Wagon trail bears N. and S. Ascend.
	15.00	Leave valley, bears N. and S. Ascend. Enter
	4 1	scattering scrub cedar, bears N. and S.
	21.00	Top of rocky spur, slope S. descend.
	30,00	Leave timber, bears N. E. and S. W. Ascend.
	52.20	Enter dense cedar timber, bears N. E. and S. W.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle
ATT.		Point by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5500	80.00	North .76 of a lk. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 95 mile cor.
na tunini		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 95 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. and raised a mound of earth 5 ft. base 2 ft.
2400		high around the post.

ALTITUDE	CHAINS	A cedar tree 10 ins. diam. bears N. 70°15' W. 130
		lks. dist. marked UTAH 95 M. B. T.
		A cedar tree 6 ins. diam. in clump of cedars, bears
. 1000	Mantacan Mantacan	N. 47° 40' E. 170 1ks. dist. marked UTAH 95 M. B.T.
The state of the s		Other trees too rough to mark. Many of these trees
	A STATE OF	are 12 ins. or more in diam. at the bottom, but they
	Shaner t	branch out right at the surface of the ground and the
		branches are very numerous, making it impossible to
		get a surface free from knots.
1		Land rolling,
		Soil sandy, 3rd rate.
		Timber, scrub cedar and pinon.
		Barometer 5500 ft. Thermometer 70°.
		96th Mile.
	_	S. 89° 59' E. on tangent to the parallel.
		Ascend gradually.
	12.45	Top of sand ridge bears N. W. and S. E.
		Flag on Vermillion cliffs called Flag Point, north of
		Navajo well, bears N. 30° 34 : E.
		Flag staff on Mansard bears N. 59001 . W.
	65.00	Top of low ridge bears N. and S. Descend.
	70.00	Dry gulch, course S. E. Ascend.
		Difference between measurements of 80 chs. by
		two sets of chainmen is 6 lks. Postion of middle
		point by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5775	80.00	North 3 lks. from the tangent.
		Set a sandstone 30x15x6 ins. 20 ins. in the ground for
		96th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 96 M. on W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of cor. Pits
45 500 500		impracticable. Trees too rough to mark for bearing
		trees.
		Land rolling.

ALTITUDE	CHAINS	Soil sandy, 3rd rate.
		Timber: scrubby cedar and pinon.
		Barometer 5775 ft. Thermometer 75°.
		97th Mile.
		S. 89° 59 ' E. on tangent to the parallel.
		Ascend along south slope over rocky ground and through
	0	timber.
	4.00	Top of spur slope S. E. Thence along a rocky south
		slope.
	21.50	Top of rocky bluff, bears N. E. and S. W. Descend.
	25.00	Foot of bluff about 100 ft. high, bears N. E. and
	o (L Casti o	S. W. Descend gradually.
	37.50	Dry gulch, course S. W.
	45.00	Dry gulch, course S.
	63.40	Dry gulch, course S.
	10 00	Difference between measurements of 80 chs. by two
	Dallane	sets of chainmen is 12 lks. Position of middle
	Con Minar	point by 1st set 80.06 chs. By 2nd set 79.97 chs.
	2017, 0412	The mean of which is
5650	80.00	North 7 lks. from the tangent.
	- FI O. D	Set an iron pipe 2 ind. in diam. 5 ft. long with
		flanges at the bottom, 3 ft. in the ground for 97th
		mile cor. A brass cap on the top of the pipe has
		raised letters UTAH on N. ARIZ. on S. and 97 M stamped
		in the center. Dug pits 36x36x18 ins. N. S. E. and W.
	and make	of cor. 6 ft. dist. and raised a mound of earth 5 ft.
		base 2 ft. high around the post.
	DOM LABOR	A cedar tree 6 ins. diam. in clump of cedars bears N.
	1	48° 20' E. 243 lks. dist. marked UTAH 97 M. B.T.
		A cedar tree 10 ins. diam. bears S. 80° E. 196 lks.
		dist. marked ARIZ. 97 M. B.T. A cedar tree 12 ins.
		diam. bears S. 8° W. 149 lks. dist. marked ARIZ. 97 M
		B.T. A cedar trade 5 ins. diam. bears N. 68° 20' W.
		121 lks. dist. marked UTAH 97 M. B. T.

_			
	ALTITUDE	CHAINS	Land rolling.
			Soil rocky and sandy, 3rd rate.
			Timber nearly all cedar.
			Barometer 5650 ft. Thermometer 75°.
		in the	98th Mile.
	Marian I		S. 89° 58' E. on tangent to the parallel.
			Descend along S. W. slope through timber.
		32.30	Dry gulch, course S.
		37.70	Dry gulch, course S. leave timber, bears N. E. and S.W
	* DELIDION	38.42	Flag point on Vermillion cliff north of Navajo well
	•		bears N 1° 44' E. The field notes describing flag
			point were obtained from the U. S. Surveyor General
			for Utah at Salt Lake City, and are as follows:
			"A southward salient of the vermillion cliffs over-
			looking the Navajo well. The station is on the
			highest point of a peninsular mass, then flat top of
			which slopes gently to the N. W. and is an acre in
			extent. It can be reached only from the north.
			The peninsula was cleared of trees and the station
		AND THE PROPERTY.	was marked by a cairn of stone and wood 10 ft. in
	-		diam. and 10 ft, high with a staff projecting from the
			apex. Lat. 37° 3' 36.73". Long. 112° 16: 44.95".
			The given lat. places this point 332.08 chs. north
			of the 37th parallel. I make it by triangulation
			330.63 chs.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 4 lks. Position of the middle point
			by 1st set is 80.02 chs. By 2nd set 79.98 chs.
			The mean of which is
	5650	80.00	North 12 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom, 3 ft. in the ground, for 98th mile cor.
			A brass cap on the top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 98 M. stamped in the

DUUN	DAMI LIN	E DETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	center. Dug pits 36x36x18 ins. N. S. E. & W. of cor.
1 1 1 1	1 2 3	6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post. No trees within limits.
144	-14- 48	Land rolling.
dayan 4	The state of	Soil sandy, 3rd rate,
		Vegetation: grass and sage.
	9	Barometer 5650 ft. Thermometer 75°
100	, i , arts	To a troughtraned reported access that the property
	ter op	99th Mile.
	- 4 27 19	S. 89° 57' E. on tangent to the parallel.
		Descend gradually.
	50.00	Leave rolling hills, enter little flat, bears N.E. and
mercan in	11-1-	The contract of the contract o
* ***	63.40	Bottom of wash, dry course S.W. Difference between measurements of 80 chs. by two
A O MEG		sets of chainmen is 6 lks. Postion of middle point
177		by 1st set 80.03 chs. By 2nd set 79.97 chs.
(C) (L) (L) (L)	- Tun-18	The mean of which is
5625	80.00	North 19 1ks. from the tangent.
		Set an iron pipe 2 ind. diam. 5 ft. long with flanges
	10,037	at the bottom 3 ft. in the ground for 99th mile cor.
		A brass cap on the top of pipe has raised letters UTAH
		on N. ARIZ. on S. and 99 M stamped in the center.
, a.c		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
FELT BOAT	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	dist. and raised a mound of earth 5 ft base and 2 ft.
arova ev	Alla . Din	high around the post. This cor. stands on a red
		gumbo clay flat.
		Land rolling and level.
		Soil, sand and clay, 2nd rate.
	**	Vegetation: grass and sage.
		Barometer 5625 ft. Thermometer 75 °.
12111111		100th Mile.
		S. 89° 57' E. on tangent to the parallel.
	*	Across flat.
	19.25	Dry gulch, course S. W. Ascend., leave flat, bears

	DUUINI	AILI LIIVI	DETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
	ALTITUDE	CHAINS	N. E. and S. W.
*		27.62	Top of ridge, bears N. E. and S. W. About 75 ft. above
			flat.
			Flag point on south salient of vermillion cliffs north
			of Navajo well, bears N. 22° 54' W. thence along south
			slope.
		65.00	Enter little valley, bears N. E. and S. W.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 8 lks. Position of middle point by
	No.		1st set is 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5630	80.00	North 27 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 100th mile cor.
			a brass cap on the top of pipe has raised letters UTAH
			on N. ARIZ. on S. and 100 M stamped in the center.
			Dug pits 36x36x18 ins. N. S. E. and W. of cor. Raised
			a mound of earth 5 ft base 2 ft. high around the post.
	-		Land rolling.
			Soil sandy, 2nd rate.
			Vegetation: grass and sage.
			Barometer 5630 ft. Thermometer 650.
			1/4 sec. cor. on N. and S line between secs. 9 and 10,
			T. 44 S. R. 4 W. Salt Lake meridian bears S. 71928'E!
			19.50 chs dist. A sandstone 14x3x10 ins. above ground,
			one bearing tree.
			depart and now many from more more more from their fields from damp damp.
			lOlst Mile.
			S. 89° 56' E. on tangent to the parallel.
			Descend gradually.
		5.00	Main wash, dry, course S. W., banks 15 ft. high. Ascend.
			Difference between measurements of 80.00 chs. by two
			sets of chainmen is 6 lks. Postion of middle point
		,	by 1st set 80.03 chs. By 2nd set 79.97 chs.

DUU.	INDINIT LIII	DELY DELY THE CITED OF CITED IN THE PERSON OF THE PERSON
ALTITUDE	Chains	The mean of which is
5790	80,00	North 37 lks. ffom the tangent.
		Set a limestone 30x18x8 ins. 20, ins. in the ground for
		lolst mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 101 M. on W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor. Pits
		impracticable.
		Land rolling.
		Soil sandy, and stony, 3rd rate.
		Vegetation: grass and sage.
		Barometer 57.90 ft. Thermometer 67°.
		102nd Mile.
		S 89° 55' E. on tangent to the parallel.
		Ascend gradually along north slope.
	21.25	Wagon road from Kanab to Lee's Ferry, bears N. and S.
-	7	20 mile cor. on road survey from Kanab about 10 chs. S.
vi in	411.02	Enter scattering timber, bears N. and S.
	37.00	Top of little butte, bears N. and S.
	69.75	Top of spur, slope N. Descend.
		Flag point on Vermillion cliffs north of Navajo well
- Natura	all he	bears N. 45° 54' W. Molly's Nipple bears N. 23° 24' E.
er unio .		about 20 miles dist.
90	75.00	Rockycanon, dry, course N. Ascend.
1000	. 100	Difference between measurements of 80 chs. by two sets
		of chainmen is 16 lks. Position of middle point by
		1st set 80.08 chs. By 2nd set 79.92 chs.
		The mean of which is
5875	80.00	North 49 lks. from the tangent.
	*	Set a limestone 31x15x8 ins. 21 ins. in the ground
		for the 102 nd mile cor. Marked UTAH on N. 37 N. L.
		on E. ARIZ. on S. and 102 M. on the W. faces. Raised
	1	a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		A pinon tree 8 ins. diam. bears N. 50° E. 30 lks. dist.
		marked UTAH 102 M. B.T. A pinon tree 8 ins. diam.

ALTITUDE	CHAINS	bears S. 17° 15' E. 19 1ks. dist. marked ARIZ. 102 M.
		B.T. A cedar tree 4 ins. diam. bears S. 10 ° W.
or mino		55 lks. dist. marked ARIZ. 102 M. B.T. A cedar
	10 . 1 .	tree 10 ins. diam. bears N. 76° 10' W. 115 Iks. dist.
Alexon		marked UTAH 102 M. B.T.
to be		Land rolling and broken.
		Soil rocky, 3rd rate.
		Timber: cedar and pinon.
		Barometer 5875 ft. Thermometer 70°.
		April 30, 1901.
		Telephonomona to the contract of the contract
		103 Mile.
		S. 89° 55' E. on tangent to the parallel.
		Ascend.
	19.00	Top of ridge, bears N. and S. Descend.
18 App	30.00	Hollow, drains N. Ascend.
Panis s		Difference between measurements of 80 chs. by two sets
		of chainmen is 10 lks. Position of middle point by
		1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5800	80.00	North 62 lks. from the tangent.
B. 1-6-7	en .c.ler	Set a limestone 30x10x12 ins. 20 ins. in the ground
		for 103rd mile cor. Marked UTAH on N. 37 N.L. on E.
		ARIZ. on S. 103 Mg on W. faces. Raised a mound of
alter to person		stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor. Pits
-		impracticable.
	The gard	A cedar tree 10 ins. diam. bears N. 200 40' E. 199
		lks. dist marked UTAH 103 M. B.T.
		A pinon, 8 ins. diam. bears S. 37° 10' E. 201 1ks.
		dist. marked ARIZ. 103 M. B.T.
		A cedar tree 10 ins. diam. bears S. 75° 20' W. 143
	*SET	lks. dist. marked ARIZ. 103 M. B.T. No tree within
		limits N. W. suitable to mark.
		Land mountainous.
		Soil rocky, 3rd rate.

ALTITUDE	CHAINS	Timber: cedar and pinon.
		Barometer 5800 ft. Thermometer 72°.
		104th Mile.
•		S.89 9 54' E. on tangent to the parallel.
		Descend through timber.
	42.50	
Serve Co.		Difference between measurements of 80 chs. by two
		sets of chainmen is 22 lks. Position of middle
		point by 1st set 80.11 chs. By 2nd set 79.89 chs.
		The mean of which is
6200	80.00	
		Set a limestone 40x15x12 ins. on bed rock for 104th
		mile cor. marked UTAH on N. 37 N. L. on E. ARIZ.
end on		on S. and 104 M. on W. faces. Raised a mound of
		stone 5 ft. base 2 ft. high around the cor. and
Taren .		raised a mound of stone 5 ft, base 2 ft high east
		of cor. Pits impracticable.
4.70		A cedar tree 12 ins. diam. bears N. 30° E. 40 lks.
		dist. marked UTAH 104 M. B.T. A pinon tree 8 ins.
72		diam. bears S. 15° W. 27 lks. dist. marked ARIZ. 104
		M. B.T. Other trees too rough to mark.
		Land rough and rocky.
		Soil rocky, 4th rate.
		Timber scrubby pinon and cedar.
		This cor. stands on W. slope of Buckskin Mountain
	۵	near the top about 400 ft. above last cor.
		Barometer 6200 ft. Thermometer 70°.
		105th Mile.
		S. 89° 53' E. on tangent to the parallel.
. 1111		Ascend rocky west slope.
*	5.00	Top of bluff bears N. E. and S. W. about 40 ft.
		above last cor. Thence ascend gradually over Buck-
		skin plateau.

	ALTITUDE	CHAINS	Difference between measurements of 80 chs. by two
	The state of the s		sets of chainmen is 14 lks. Position of middle
			point by 1st set 80.07 chs. By 2nd set 79.93 chs.
			The mean of which is
	6230	80.00	North 92 lks. from the tangent.
			Set a limestone 30x15x12 ins. 20 ins. in the ground
		Liceon	for 105th mile cor. marked UTAH on N. 37 N. L. on
	1000	yd , ndo	E. ARIZ. on S. and 105 M. on the W. faces. Raised a
	la se se se	20120	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of
	Linda :	ill, or to	cor. Pits impracticable.
			A pinon tree 6 ins. diam. bears N. 24° 40' E. 21 lks.
			dist. marked UTAH 105 M. B.T.
	Mason	to and	A cedar tree 14 ins. diam. bears S. 550 40' E.
	N. Y	MA est as	50 lks, dist. marked ARIZ. 105 M. B.T.
	17.36.	and the Lie	A cedar tree 16 ins. diam. bears S. 60 20' W. 60 lks.
		4 Thus	dist. marked ARIZ. 105 M. B.T.
	12000	Silling or	A cedar tree 12 ins. diam. bears N. 84° 30' W. 55
			lks. dist. marked UTAH 105 M. B.T.
	· out	70 .5 4	Land mountainous.
	1.04	1 10 22 E	Soil rocky and sandy, 4th rate.
	Max (1)	nk balan	Timber: cedar and pinon.
			Barometer 6230 ft. Thermometer 65°.
			gas dan gad yan dan gad gan dan dan dan lam lam dan
			106th Mile.
			S. 89° 53' E. on tangent to the parallel.
	at the	desirate min	Descend through timber.
		3.00	Dry gulch, course N. W. Ascend.
		33.00	Top of ridge about 300 ft. above gulch, course N.
			E. and S. W. Thence over mountain top.
			Difference between measurements of 80 chs. by two
12.			sets of chainmen is 12 lks. Position of middle
			point by 1st set 80.06 chs. By 2nd set 79.94 chs.
		M 1916 201	The mean of which is
	6430	80,00	North 110 1ks. from the tangent.
			Set a limestone 31x15x6 ins. 21 ins. in the ground
			for 106th mile cor. marked UTAH on N. 37 N. L. on

	שטעו	WANT LINI	DELINED THE STATE OF CTAIL AND THE LEARNING OF ARRESTANCE
	ALTITUDE	CHAINS	E. ARIZ. on S. and 106 M. on W. faces. Raised a
		.10	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		10 Take	Pits impracticable.
		e i tetc	A cedar tree 10 ins. diam. bears N. 2° 36' E. 50
			lks. dist. Marked UTAH 106 M. B.T.
	*		A pinon tree 10 ins. diam. bears S. 35° 20' E. 50 lks.
			dist. Marked ARIZ. 106 M. B.T.
			A cedar tree 6 ins. diam. bears S. 38° 50' W. 49
		1,00	lks. dist. Marked ARIZ. 106 M. B.T.
			A cedar tree 8 ins. diam. bears N. 71° 45' W' 70
			lks. dist. marked UTAH 106 M. B.T.
		. 10	Top of Buckskin plateau.
			Land mountainous.
		(yo, de	Soil sandy and rocky, 4th rate.
		ia jane	Timber: cedar and pinon.
			Barometer 6430 ft. Thermometer 60°
			May 1st, 1901.
		. 10.	
	Q W T	ed . urto	I examine the transit in all its parts and test
	0.5	or too, play	the adjustments, compare the tapes with the standard
	, Kin	E 20.01	and find all correct this morning.
			107th Mile.
	K-19 0	es outs, n	S. 89° 52' E. on tangent to the parallel.
	E Ho .	I A TO	Ascend gradually through timber.
1	rueig n	40.15	Old wagon road bears N. and S.
	6500	73.00	Top of ridge about 50 ft. above last cor. bears
			N. and S. Descend.
	APT S	79,75	Bottom of dry ravine about 100 ft. deep course S.
			Ascend.
		41 .4 -	Difference between measurements of 80 chs. by two
			sets of chainmen is 10 lks. Position of middle point
-	n Mills		by 1st set 80.05 chs. By 2nd set 79.95 chs.
the designation of the last			The mean of which is
-	6400	80.00	North 129 1ks. from the tangent.
-			Set a limestone 30x12x7 ins. 20 ins. in the ground

		DETWEEN THE CIVIL OF CIVIL RIVE THE TERRITORY OF ARTECUA.
ALTITUDE	CHAINS	for 107th mile cor. Marked UTAH on N. 37 N. L.
L	to transf	on E, ARIZ. on S. and 107 M. on W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of cor.
12.68	100	Pits impracticable. No trees within limits suitable
	1.8	for bearing trees.
ME De	B 4 10 -	Land mountainous.
		Soil rocky, 4th rate.
No.	JIF YOU	Timber: cedar and pinon.
		Barometer 6400 ft. Thermometer 620.
0	-7 -52	
		108th Mile.
		S. 89° 51' E. on tangent to the parallel.
		Ascend along rocky south slope.
	5.50	Top of spur, slope S. Descend.
	19.20	Bottom of dry ravine course N. E. Ascend along
		N. slope.
	35.00	Top of spur, slope N. Descend.
	50.00	Bottom of dry ravine, course N. Ascend.
	or Em	Difference between measurements of 80 chs. by two
Ber Street,	10 900 00	sets of chainmen is 18 lks. Position of middle
		point by 1st set 80.09 chs. By 2nd set 79.91 chs.
400		The mean of which is
6500	80.00	North 150 lks. from the tangent.
	-20	Set a Line stone 32x12x6 ins. 21 ins. in the ground
		for 108th mile cor. Marked UTAH on N. 37 N. L. on E,
		ARIZ. on S. and 108 M. on W. faces, and raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
	MANUFACTURE OF	A pinon tree 6 ins. diam bears N. 520 15' E. 72 1ks.
		dist. marked UTAH 108 M. B.T.
	-	A cedar tree 10 ins. diam. bears S. 31° E. 47 lks.
Taran La	Mayor 1	dist. marked ARIZ. 108 M. B.T.
		A cedar tree 12 ins. diam. bears S. 43° W. 113 1ks.
Marie San		dist. marked ARIZ, 108 M. B.T.
		A pinon tree 8 ins. diam. bears N. 64° 20' W.
- Bayer	1-24	40 lks. dist. marked Utah 108 M. B.T.

DOON	инит ции.	E DETWEEN THE STATE OF CTAIL AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	Land mountainous.
		Soil rocky and sandy, 4th rate.
		Timber: cedar and piñon.
		Barometer 6500 ft. Thermometer 65°.
	mmbr.	one since depresentation was no measure on the
		109th Mile.
1001	al audo	S. 89° 51' E. on tangent to the parallel.
	107 10	Descend along N. slope in timber.
	7.00	Dry gulch, course N. Ascend.
	13.00	Top of spur, slope N.
1	18.00	Bottom of dry ravine, course N.
	22.50	Top of spur, slope N.
	31.50	Bottom of dry ravine about 100 ft. deep, course N.
6575	70.00	Top of high ridge, bears N. and S. Descend E. slope
	o trans	of Buckskin mountain.
		Difference between measurements of 80 chs. by two
	noge in	sets of chainmen is 14 lks. Position of middle point
		by 1st set 80.07 chs. By 2nd set 79.93 chs.
		The mean of which is
6525	80.00	North 172 lks. from the tangent.
		Set a limestone 30x18x6 ins. 20 ins. in the ground
		for 109th mile cor. marked UTAH on N. 37 N.L. on E.
		ARIZ. on S. and 109 M. on W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		A cedar tree 5 ins. diam. bears N. 48° 10' E. 171
		lks. dist. marked UTAH 109 M. B.T.
	March March	A cedar tree 5 ins. diam. bears S. 11° 35' E. 94
	· William	lks. dist. marked ARIZ. 109 M. B.T.
		No other trees within limits.
		Land mountainous.
+ 1910		Soil rocky and sandy, 4th rate.
		Timber: cedar and pinon.
		Barometer 6525 ft. Thermometer 70°.
	1	

	ALTITUDI	E CHAINS	110th Mile.
			S. 89° 50' E. on tangent to the parallel.
			Descend through scattering timber.
		40,00	Leave timber, bears N. E. and S. W.
		60.00	Bottom of dry rocky canon about 300 ft. deep, course
The state of the s			N. E. Ascend.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 20 lks. Position of middle point
			by 1st set 80.10 chs. By 2nd set 79.90 chs.
			The mean of which is
	6300	80.00	North 196 lks. from the tangent.
			Set a limestone 30x15x8 ins. 20 ins. in the ground
			for the 110th mile cor. marked UTAH on N. 37 N. L.
			on E. ARIZ. on S, and 110 M. on W. faces. Raised a
			mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
			Pits impracticable.
	Except est		This cor. stands on a sharp spur that slopes N. E.
			Land mountainous.
			Soil rocky, 4th rate.
			Timber, cedar and pinon.
			Barometer 6300 ft. Thermometer 60°.
			gand your dated direct from these book made not been been con- dealer (asso-
			lllth Mile.
			S. 89° 49' E. on tangent to the parallel.
			Descend steep east slope.
		26.00	Bottom of rocky canon, course N. E.
		36.80	Top of spur, slope N. E. Descend.
		48.00	Foot of Buckskin Mountain. Enter House Rock
			valley, bears N. and S, Descend gradually.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 14 lks. Position of middle
			point by 1st set 80.07 chs. By 2nd set 79.93 chs.
			The mean of which is
	5250	80.00	North 221 lks. from the tangent.
			Set a conglomerate stone 32x16x6 ins. 22 ins. in the
			ground for 111th mile cor. Marked UTAH on N. 37
	A REST OF THE REST		OT NO DI

ALTITUDE

CHAINS

N. L. on E. ARIZ. on S. and lll M. on W. faces. Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist. and raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.

Land mountainous.

Soil rocky and sandy, 3rd rate.

Vegetation: grass and sage.

Barometer 5250 ft. Thermometer 58°.

May 2nd, 1901.

May 3rd, 1901, at 4h 40m A.M. l.m.t., at the lilth mile cor. I observe Polaris at eastern elongation in accordance with instructions in the manual and mark the line thus determined on a plug driven in the ground north of my station.

May 3rd, 1901, at 7h A.M. I lay off the azimuth of Polaris 1° 31.8' to the west and mark the true meridian thus determined on a plug driven in the ground 5 chs. north of my station. The magnetic

bearing of the said meridian is N. 15° 07' W.

This reduced by the table page 100 of the Manual Igioes the

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In lay off from this meridian an angle of 90° from

the north to the east for the tangent to the parallel.

In all these operations the mean of at least four

sights is taken, being careful to reverse the in
strument at each sight.

I test the stadia wires in the transit and compare the steel tapes with the standard, and find them correct.

112th Mile.

East on tangent to the parallel. Ascend gradually.

5.22 Top of rocky ridge bears N. and S. Descend.

	ALTITUDE	CHAINS	W and head bloom W and G
	0000	15.00	Wagon road bears N. and S.
	5100	15.50	Bottom of House Rock wash, dry, course N. Ascend.
		27.64	Top of rocky ridge, bears N. and S. From this point
			use stadia measurement. Angle 12°+ Rod 11.86 double=
4			2372 ft. Constant 95.68 x 2372 = 2269.53 + C.=
			1.12 = 2270.65 ft. = 34.40 chs. + 27.64 = 62.04 chs.
		62.04	On cliffs, bears N. and S. Stadia again. Angle
			20° + Rod 6.75 double = 1350 ft. Constant 88.30 x
			1350 = 1192.05 + C = 1.08 = 1193.13 ft. = 18.08 chs.+
	1		62.04 chs. = 80.12 chs. I measure back west 12 lks.
			and at.
	6250	80.00	North .76 of lk. from the tangent.
			On top of sharp red cliff about 1150 ft. above
		Fig. Capt.	House Rock valley, cliff bears N. and S.
			Set a sandstone 36x10x9 ins. on bed rock for 112th
		SELECTION AND	mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
			on S. and 112 M. on W. faces. Raised a mound of
		pr me	stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high around the cor.
			Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
	-	T. T.	east of cor. Pits impracticable.
	A SECTION AND A	*00 35	Land mountainous.
			Soil very rocky, 4th rate.
		I said	Vegetation: grass and sage.
		Maria de la composición dela composición de la composición de la composición dela composición dela composición dela composición de la composición dela	Barometer 6250 ft. Thermometer 650
		PACKET.	113th Mile.
			S. 89° 59' E. on tangent to the parallel.
			Across chasm by stadia measurement. Angle 5° -
		-	Rod 8.235 double = 1647 ft. Constant 99.24 x 1647=
			1634.48 + C = 1.14 = 1635.62 ft. = 24.78 chs.
	5650	12.50	
	6000	24.78	
			N. Descend.
			Stadia measurement Angle 22° - Rod 11.10 Constant
			85.97 x 1110 = 954.27 + C. = 1.06 = 955.33 ft. =
			14.47 chs. + 24.78 chs. = 39.25 chs.

1/0/2			
The same of the sa	chains	NOTE	
Manager Francisco	15.50	This wash should be noted as Coyote Wash, course N.	
		Houserock Wash heads approx. 16 miles south of the 112 mile mon. and drains S.	
BOOM	2628	January 22, 1937 (W)	

ALTITUDE	CHAINS	
	39,25	To rocky bench bears N. and S. about 5 chs. S. of
1		a great bell shaped rock. Descend.
		Stadia measurement Angle 10° - Rod 11.48 double =
		2296 ft. Constant 96.98 x 2296 = 2226.76 + C = 1.13 =
		2227.89 ft. = 33.75 chs. + 3925 chs. = 7300 chs.
5000	68.00	Bottom of sand wash about 1000 ft. below top of
		spur, course N. Water pocket about 10 chs. N.
	100 .0 .	Ascend over bare rock.
1-44-4	73.00	To stadia point on bare rock. Thence by tape measure-
		ment.
5400	80.00	North 3 lks. from the tangent.
		Set a sandstone 36x18x6 ins. on smooth bed rock for
		113th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 113 M. on W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base 2 ft. high around the cor.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
		east of cor. Pits impracticable.
		Land mountainous.
1,081	, tox	Soil very scanty, all bare rock.
		Vegetation: a little grass and sage in the crevices
470-60	DOLD BAR	of the rock.
ods. v	o (Està e	Barometer 5400 ft. Thermometer 75°.
. J Lump	n Deblem	Space storm storm plans about times bearn factor formed (reds)
chia	. mily	114th Mile.
0.5	DIVERSITY OF	S. 89° 59' E. on tangent to the parallel.
- me n	busy deep	Ascend over bare sandstone and broken rock. A lot
		of come shaped red buttes south of the line.
	20.60	Top of sandstone ridge, bears N. and S. About 1/2
titletir.		mile N. to Buckskin Gulch. A narrow chasm about
	- Harris - N	20 ft. wide and 300 ft. deep worn in the sandstone,
n bimin		course N. E. for about 3 miles, then easterly and
* 4.401 3		southerly till it falls into the Paria Canon.
		Thence over rolling sand hills and bare sandstone.
		Difference between measurements of 80 chs. by two

	ALTITUDE	CHAINS	sets of chainmen is 12 lks. Position of middle point
			by 1st set is 80.06 chs. By 2nd set 79.94 chs.
	*	Service S.	The mean of which is
1921E	5600	80.00	North 7 lks. from the tangent.
			Set a sandstone 30x12x6 ins. 20 ins. in the ground.
	. 1111	2500	for 114th mile cor. Marked UTAH on N. 37 N. L. on
	79		E, ARIZ. on S. and 114 M. on W. faces.
			Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6
			ft. dist. and raised a mound of earth 51 ft. base
			$2\frac{1}{2}$ ft. high east of cor.
			Land rolling sand hills. Many conical red buttes
			south of the line.
	AME NO		Soil very sandy, 4th rate.
			Vegetation: grass and sage, and a few stunted cedars
		A STATE OF THE STA	in the rock crevices.
	. 3	P. Post	Barometer 5600 ft. Thermometer 80°.
	P. Darie	N. ST.	
			ll5th Mile.
			S. 89° 58' E. on tangent to the parallel.
			Over rolling sand hills.
		22.00	South one of twin sandstone buttes about 100 ft.
			base and 30 ft. high, the tangent line strikes the
			south side about ½ way between the base and summit.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 6 lks. Position of middle
		. 104	point by 1st set 80.03 chs. By 2nd set 79.97 chs.
	201 7	, MORE	The mean of which is
	5625	80.00	North 12 lks. from the tangent.
		Name of the last o	Set a sandstone 48x12x6 ins. 32 ins. in the ground
	, a Thing	Street, Street	for 115th mile cor. Marked UTAH on N. 37 N. L.
	1000	Tire and the st	on E. ARIZ. on S. and 115 M. on W. faces. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		and area	Pits impracticable.
			THE PART OF THE PA
	Jones,		Land rolling, sand hills and rock buttes.
			Soil sandy, 4th rate.
			Vegetation: grass, sage and scattering cedar.

ALTITUDE	CHAINS	Barometer 5625 ft. Thermometer 75°.
	netor set.	by let my do, do end, by had not ye
		ll6th Mile.
		S. 89° 57' E. on tangent to the parallel.
	4	Ascend over rolling sand hills.
	40.00	South end of rough sandstone butte. Descend.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
	* 1 1	by 1st set 80.04 chs. By 2nd set 79.96 chs.
t-HAI (C.)		The mean of which is
5550	80.00	North 19 lks. from the tangent.
,	a Linguro	Set a sandstone 34x15x6 ins. 23 ins. in the ground
		for 116th mile cor. Marked UTAH on N. 37 N. L. on
370	arpeo St	E. ARIZ. on S. and 116 M. on W. faces. Raised a
		mound of stone 5½ ft. base 2½ ft. high east of cor.
		Pits impracticable.
		A cedar tree 12 ins. diam. bears N. 38°20' W.
		35 lks. dist. marked UTAH 116 M. B.T.
	. 101	A pinon tree 14 ins. diam. bears S. 58° E. 412 lks.
. 10	out the post of	dist. marked ARIZ. 116 M. B.T.
0.47	ed . miles	A cedar tree 5 ins. diam. bears S. 36° 40' W. 182
ai pa ki	en lat the	lks. dist. marked ARIZ. 116 M. B.T.
	. nan et.	No trees within limits N.E.
		Land rolling sand hills.
		Soil sandy, 4th rate.
- Linuary	porte m	Vegetation: grass, sage and scattering pinon and
to .d	. " EE 6	cedar timber.
0.0	N JOHN	Barometer 5550 ft. Thermometer 58°.
. 1926		diver dates delita della conte titale della quali qual quan cana tana union della
dilate 1	THE PARTY	I examine the adjustments of the instrument and com-
		pare the steel tapes with the standard and find all
	ME .	correct.
		117th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Over rolling sand hills.

Difference between measurements of 80 chs. by two

	ALTITUDE	CHAINS	John Control of the C
			sets of chainmen is 12 lks. Position of middle point
			by 1st set 80.06 chs. By 2nd set 79.94 chs.
			The mean of which is
	5510	80.00	North 27 lks. from the tangent.
			Set a sandstone 36x18x6 ins. 24 ins. in the ground
			for 117th mile cor. Marked UTAH on N. 37 N. L. on
			E. ARIZ. on S. and 117 M. on W. faces. Dug pits
			36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist. and
			raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
	A STATE OF THE STA		of cor.
			Land rolling sand hills and sandstone croppings.
			Soil sandy, 4th rate.
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Vegetation: grass, sage, and scattering cedar and
			pinon timber.
		O STATE OF	Barometer 5510 ft. Thermometer 60°.
			0_100000000000000000000000000000000000
		CONTRACTOR OF THE PARTY OF THE	118th Mile.
			S. 89° 56' E. on tangent to the parallel.
			Over rolling sand hills and sandstone croppings.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5475	80.00	North 37 lks. from the tangent.
			Set a sandstone 30x18x6 ins. 20 ins. in the ground
			for 118th mile cor. Marked UTAH on N. 37 N. L. on
			E. ARIZ. on S. and 118 M. on W. faces. Dug pits
			36x36x18 ins. N. S. E. and W. from cor. 6 ft. dist.
			Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
			of cor.
			A cedar tree 10 ins. bears N. 10° 40' E. 130 lks.
			dist. Marked UTAH 118 M. B.T. No other trees
			within limits.
		. 7.0	Land rolling, sand hills and sandstone croppings.
			Soil sandy, 4th rate.
	100		Vegetation: grass and sage and scattering cedar and
THE RESERVE THE PARTY OF THE PA	Annual State of the last	Non-State Commence	

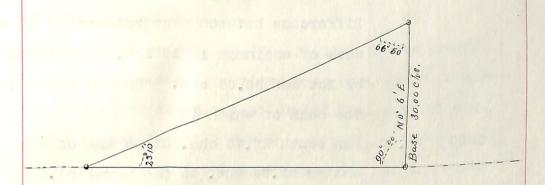
_			
	ALTITUDE	CHAINS	pinon.
	1100 01		Barometer 5475 ft. Thermometer 65°.
			1.07-190 her 100 . 000 . 00 . 000 .
			119th Mile.
	-araut		S. 89° 55' E. on tangent to the parallel.
	and the same		Over rolling sand hills and sandstone croppings.
			Ascending.
	, Int.		Difference between measurements of 80 chs. by two
			sets of chainmen is 6 lks. Position of middle point
	h. hr.t. be		by 1st set 80.03 chs. By 2nd set 7997 chs.
			The mean of which is
	5550	80.00	North 49 1ks. from the tangent.
			Marked a sand rock in place 12x20 ft. base and 20
			ft. high of mushroom shape, marked with a cross on
			E. face thus: ARIZ. + UTAH for 119th mile cor.
			UTAH on N. ARIZ. on S. 119 M. above and 37 N. L.
			below the cross. Raised a mound of stone $5\frac{1}{2}$ ft.base $2\frac{1}{2}$ ft. high east of cross.
			Land rolling sand hills and sandstone croppings.
			Soil sandy, 4th rate.
			Vegetation: grass, sage and scattering scrub cedar
	La La		and pinon.
			Barometer 5550 ft. Thermometer 70°.
			Constitution from the first part first part first part first part first part first part first
			120th Mile.
	1 1	pri arte d	S. 89° 55' E. on tangent to the parallel.
			Ascend over rocks.
		2.35	Top of rocky spur, slope N. Descend. Mollie's
	-12		Nipple bears N. 64° 09' W.
	no in the	24.00	Deep dry gulch, course N. Ascend over sand hills.
		65.00	Foot of wall, course N. and S. Nearly perpendicular.
			about 1000 ft. high. Top inaccessable. Offset North
			22.76 chs. to avoid the wall and in order that this
			Offset line may hit the south edge of the high
			table land across the Paria River Canon; thence ran
			S. 89° 55' E. parallel to the tangent.

ALTITUDE	Chains	Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5250	80.00	Ran south to the foot of the rocks 9.39 chs. there-
	- Marion	by placing this cor. 13.37 chs. N. of the tangent.
		Offset at this point 62 lks. north of tangent
	The same	and 12.75 chs. N. of its true place on the parallel,
\$15.20 H	TO PER ST	which is inaccessable.
	1, 2012	Set a sandstone 36x15x6 ins. 24 ins. in the ground
		for witness cor. for the 120th mile cor. Marked
		W. C. UTAH on N. 37 N. L. on E. ARIZ. on S. and
100	100,000,00	120 M. on the W. faces. Dug pits 36x36x18 ins. N.
	SQUEEN IN 15.	S. E. and W. of cor. 6 ft. dist. and raised a mound
		of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		This cor. stands at foot of cliffs that raise S. of
		it and bear E. and W.
	Service of the servic	Land: sand hills and rugged cliffs.
		Soil rocky and sandy, 3rd rate.
	TO SECTION AND ADDRESS OF THE PARTY OF THE P	Vegetation: grass, sage and scrub cedar and pinon.
		Barometer 5250 ft. Thermometer 65°.
		May 3rd, 1901.
		l21st Mile.
		On the offset line 22.76 chs. north of the tangent
		I ran S. 89° 54' E. parallel to the tangent.
	10.00	
		of Paria River Canon. I set a flag on this line
		at the south end of high table land across the canon.
		Erect a flag at this point and go to the one across
		the river. In order to do this I have to make a
		detour around the head of Buckskin Gulch and 5 or 6
		miles north to cross the canon of the Paria.
		May 4th, 1901.

I go to the flag on the offset line on the high table

ALTITUDE	CHAIN

land, east of the Paria Canon and measure a base at right angles to said offset line which is parallel to the tangent., Said base bearing N. 0° 6' E. 30.00 chs. This being the longest base possible. From N. end take back sight on base line and measure angle to west to the flag on west side of canon, the mean of four sights gives this angle 66° 50'. Bearing of flag S. 66° 56' W.



Then log. 30,00 chs. = 1.477121 log. Tang 66° 50' = 10.368645

1.845766= 70.11 chs.+

10.00 chs. = 80.11 chs.

Ran back to the west 11 lks. = 80 chs.

From flag on W. side of river coming S. 89° 54' E.

Descend.

4300 40.00

Bottom of Paria Canon about 2 chs. wide and about 1350 ft. deep, here dry, course S. E.

5650 80,00

Set a sandstone 36x15x12 ins. 24 ins. in the ground on the high mesa east of the Paria Canon for witness corner, for the 121st mile cor. The true point for this corner being inaccessable. This point is on the offset line 22.76 chs. north of the tangent, the offset to the parallel is 76 lks. north of the tangent for this point; hence this witness corner is 22.00 chs. north of the true point on the parallel.

Marked W. C. UTAH on N. 37 N. L. on E. ARIZ. on S. and 121 M. on the W. faces. Raised a mound of stone $5\frac{1}{5}$

121 M. on the W. faces. Raised a mound of stone $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of cor. Pits impracticable. This cor. stands on S.W. corner of high mesa. The true point on the parallel is about 500 ft. lower.

ALTITUDE	CHAINS	Land very much broken.
Traction .		Soil rocky, 4th rate.
	Samo . S	Vegetation: grass, sage and scattering scrub cedars.
· alsi		Barometer 5650 ft. Thermometer 40°.
The state of		
		122nd Mile.
	. 103 6	S. 89° 53' E. on offset line 22.76 chs. N. of tangent
		and parallel with it over mesa, gently rolling,
		through scrub cedar.
		Difference between measurements of 80 chs. by two
	The same	sets of chainmen is 16 lks. Position of middle point
E THE PERSON		by 1st set 80.08 chs. By 2nd set 79.92 chs.
		The mean of which is
5500	80.00	Ran south 22.76 chs. minus the offset which is 92 lks.
		making 21.84 chs. to the parallel.
		Set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 122nd mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 122 M. on W. faces, Dug pits
		36x36x18 ins. N. S. E. and W. of the cor. Raised a
- 120		mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		A cedar tree 12 ins. diam. bears N. 29° 30' E. 91
- Paroja	Mary was	lks. dist. marked UTAH 122 M. B.T. A cedar tree 12
		ins. diam. bears S. 34° 50' W. 114 lks. dist. marked
Smires	dely lot	ARIZ. 122 M. B.T. No other trees within limits
		suitable for bearing trees.
mys Fish		Land high mesa, rolling, and with rock croppings.
The last	WAR SOLD	Soil rocky and sandy, 4th rate.
100		Vegetation: grass, sage and scrub cedar.
		Barometer 5500 ft. Thermometer 40°.
		Child Spirite galling States dated d
		123rd Mile.
		Ran south 92 lks. to the tangent to the parallel.
Designation of the second		Thence S. 89° 53' E. on tangent to the parallel.
		Over gently rolling sand hills.
Page 1	25.00	On the west wall of canon, bears N. E. and S. W.

BUCTO		DATE AND THE STATE OF STATE AND THE STATE OF INCIDENCE
ALTITUDE	Chains	Descend.
	35.00	Bottom of canon about 400 ft. deep, course S. Ascend.
er Tal	50.00	On east wall of canon, bears N. and S.
	62.30	On west wall of another canon, bears N. E. and S.
		Country ahead, impassable. Ofsett north 22.91 chs.
		Thence ran S. 89° 53' E. Parallel with the tangent.
- C		Difference between me asurements of 80 chs. by two
		sets of chainmen is 8 1ks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5075	80.00	Set a sandstone 32%10x7 ins. 21 ins. in the ground
TO PERC		for witness corner for 123rd mile cor. 22.91 chs.minus
byrg o		the offset to the parallel of 110 lks. = 21.81 chs.
10 .0		north of the parallel for this corner. Marked W. C.
7.4		UTAH on N. 37 N. L. on E. ARIZ. on S. and 123 M. on
		W. faces. Dug pits 36x36x18 ins. N. S. E. and W. of
		the cor. 6 ft. dist. Raised a mound of earth $5\frac{1}{2}$ ft.
· duor		base 21 ft. high east of cor.
Organis/L		No trees within limits.
CHIEF F		Land mountainous, broken and rocky.
		Soil rocky and sandy, 4th rate.
		Vegetarion: grass, sage and scattering cedar.
		Barometer 5075 ft. Thermometer 42°.
		124th Mile.
		S. 89° 52' E. on the offset line 22.91 chs. North of
		the tangent and parallel with it over broken land.
	28.00	Edge of impassable canon, course South. Offset
		north 20.79 chs. + 22.91 chs. = 43.70 chs. north
		of the tangent to the parallel. Thence S. 89° 52' E.
		on the offset line parallel with the tangent.
	34.50	On west wall of canon about 200 ft. deep bears N.
		and S. Thence by stadia measurement. Level.
		Rod 12.29 ft. + C = 1.15 = 1230.15 ft. = 18.63 chs.+
		34.50= 53.13 chs.

ALTITUDE	CHAINS	
, broosna	45.00	Bottom of canon, course S. Ascend.
	53,13	On E. wall of canon, bears N. and S. Stadia point.
	New YE .	Thence by tape measurement.
	77.10	on brow of bluff, bears N. and S. Descend.
. Dimanna		Difference between measurements of 61.37 chs. by
	METAL MITT	two sets of chainmen is 8 lks. Position of middle
anison o	allin ic	point by 1st set 61.41 chs. By 2nd set 61.33 chs.
	alla an.	The mean of which is 61.37 + 18.63 chs.=
5350	80.00	Comes on E. wall of canon, bears N. and S.
house		Set an iron pipe 2 ins, diam. 5 ft. long with flanges
and white area	Walls	at the bottom 3 ft, in the ground for witness corner
, 9/10	Maria	for 124th mile cor. A brass cap on top of the pipe
. 00,2000	and the same of	has raised letters UTAH on N. ARIZ. on S. and W. C.
100	BEE PHI	124 M. stamped in the center. Raised a mound of
12 12 1	diam'r.	stone 5 ft. base 2 ft. high around the post.
-79.00	Marine Me	Pits impracticable.
		This offset line is 43.70 chs. north of the tangent.
		The offset for this corner is 129 lks. N. Therefore
		this witness corner is 42.41 chs. north of the true
		place on the parallel.
		About 3/4 of a mile south to the Paria Canon.
		Land much broken.
		Soil rocky, 4th rate.
		Vegetation: grass, sage and scattering scrub cedar.
		Barometer 5350 ft. Thermometer 45°.
	MOATE PRO	125th Mile.
		S. 89° 51' E. on offset line 43.70 chs. north of
		the tangent and parallel with it.
		Descend, use stadia measurement. Level. Rod 9.66=
	* 2000	966 ft. + C. = 1.15 = 967.15 ft. = 14.64 chs.
	6.50	Bottom of rock canon, about 200 ft. deep extends N.
		about 5 chs. and S. to the Paria.
	14.64	East wall of canon bears N. and S. Thence by tape
		measurement. Ascend.
	18.00	Top of rocky spur. Extends south about 30 chs. and

	D O CT		The state of the s
	ALTITUDE	CHAINS	ends in sharp rock point.
		22.30	West wall of canon bears N. and S. Descend.
			Use stadia measurement. Angle 8°- Rod 12.985 double
			= 2597 ft. Constant 98.06 x 25.97 = 2546.62 + C = 1.14
			= 2547.76 ft. = 38.60 chs. + 22.30 = 60.90 chs.
		60,90	Stadia point. Thence angle 10° + Rod 8.355 double =
			1671 ft. Constant 96.98 x 1671 = 1620.54 + C. = 1.13=
			1621.67 ft. = 24.57 chs. + 60.90 chs. = 85.47 chs.
	•	80.00	comes on steep side of canon wall. Impracticable to
	9 (2)		establish the corner.
			Land rough, rocky and much broken.
			Soil rocky and sandy, 4th rate.
	Ph. C.		Vegetation: grass, sage and scattering scrub cedar.
	*	,	
			126th Mile.
			S. 89° 51' E. on offset line 43.70 chs. north of the
			tangent and parallel with it. Ascend over broken
			land.
	may no	5.47	Stadia point on E. wall of canon, course N. E. and
			S. W. about 350 ft. above the bottom. Thence by
			tape measurement.
	5400	6.57	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for witness corner
	of the same		for 125th mile cor. A brass cap on the top of the
			pipe has raised letters UTAH on N. ARIZ. on S. and
			W.C. 125.082 M. stamped across the middle.
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
			6 ft. dist. Raised a mound of earth 51 ft. base
			2 ft. high around the post.
			This corner is on the offset line 43.70 chs. north
			of the tangent. The offset for this corner is 152
			lks. N. from the tangent. Therefore this witness
-			corner is 42.18 chs. north of its true place on the
			parallel.

ALTITUDE	Chains	
		Barometer 5400 ft. Thermometer 45°.
	· Nature from	A TO TAKE A MIT HOW TO A VICE OF THE ACTION
andrea	mik, nr. s	S. 89° 51' E. continuing on the offset line.
self to	W 20. N	on water to, congress the same of the same
	ann oo.	Ascend over rough, rocky land.
n fillding	21.43	On top of wall bears N. E. and S. W. Descend.
		Thence by stadia measurement. Angle 11°- Rod 10.54
		double = 2108 Constant 96.38 x 2108 = 2031.27 + C =
and make		1.13 = 2032.40 ft. = 30.79 chs. # 21.43 = 52.22 chs.
	52.22	Stadia point in rolling sand hills about 400 ft. below
		top of wall. Thence by tape measurement.
		Difference between measurements of 42.64 chs. by
, and the	The state of the s	two sets of chainmen is 4 lks. Position of middle
		point by 1st set 42.66 chs. By 2nd set 42.62 chs.
		The mean of which is 42.64 chs. + 30.79 + 6.57=
4975	80.00	Thence I run south 43.70 chs the offset north
		from the tangent for this cor. which is 172 lks.=
		41.98 chs. to the 37th parallel of latitude.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for the 126th mile
		cor. A brass cap on the top of the pipe has raised
2007112017	all the frame Armer	letters UTAH on N. ARIZ. on S, and 126 M. stamped
The same of the sa		in the center. Dug pits 36x36x18 ins. N. S. E. and
		W. of the cor. 6 ft. dist. Raised a mound of earth
		5 ft. base 2 ft. high around the post.
		The Paria Canon is about 3/4 of a mile south, and
		about a 1/4 of a mile further east the canon turns
		more to the south.
	-41 25	Land very rough and much broken.
		Soil sandy and rocky, 4th rate.
		Vegetation: grass, sage and scattering scrub cedar.
		Barometer 4975 ft. Thermometer 40°.
		I examine and carefully adjust the transit and
	40	compare the steel tapes with the standard.
		May 5th, 1901.
		quay distri pare time distrip dalan more (state) mana pare times

טע		DELWELLY THE STATE OF CTAIL AND THE TERRITORY OF ARIZONA.
ALTITUI	E CHAINS	May 6th, 1901, at the 126th mile corner at 4h 28m
hr h	M, etampe	A.M. l.m.t., I observe Polaris at eastern elongation
10	n bein a	in accordance with instructions in the manual and
anned s	, and it is also	mark the line so determined on a plug driven in the
		ground 5 chs. north of my station.
		At 7h 20m A.M. I lay off the azimuth of Polaris
		1° 31.8' to the west and mark the true meridian thus
	. rubon	determined on a plug driven in the ground 10 chs.
		north of my station. The magnetic bearing of the
		true meridian is N. 15° 03' W. This reduced by
	11.44	the table page 100 of the manual gives the mean
	. 50	magnetic declination 15° 00' E. I now lay off an
	tonia, turo	angle as one from this meridian turning from the north
		to the east for the tangent to the parallel. In all
	and will a series	of these operations the mean of at least four sights
	m r 15.5, 250 1956	was taken, the telescope reversed at each sight.
		in Albert growing and an arrange on the state of the stat
0	Later Contract of the Contract	127th Mile.
		East on the tangent to the parallel.
	were ender	Over rolling land.
131	10.00	
		On rocky point of spur, sloping S. Descend.
	rate and	obs. north.
		Stadio was mark angle 60- Rod 7.925 double =
0.00		1585 ft. constant 98.91 x 1585 = 1567.72 + C =
	ess es .5	or yr che + 30.40= 54.17 chs.
	45.00	To the course S. W.
	54.17	The and S. W.
		Thence by tape measurement.
		Difference between measurements of 56.23 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 56.27 chs. By 2nd set 56.19 chs.
1 10		The mean of which is 56.23 chs, + 23.77chs-
5	500 80.0	North .76 of lk. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with
		flanges at the bottom 3 ft. in the ground for 127th
	1 1 1 1 1 1 1 1	

ALTITUDE	CHAINS	mile cor. A brass cap on top of the pipe has raised
maktanı	da era	letters UTAH on N. ARIZ. on S. and 127 M. stamped in
Alter II		center. Dug pits 36x36x18 ins. N. S. E. and W. of
with m		cor. 6 ft. dist. Raised a mound of earth 5 ft. base
		2 ft. high around the post.
1		Land rolling and broken.
aunt on		Soil sandy, 4th rate.
A STATE		Vegetation: grass, sage and scattering cedar.
BOX		Barometer 5500 ft. Thermometer 45°.
		where the contract of the cont
		128th Mile.
H.O.		S. 89° 59' E. on tangent to the parallel.
	Angell 2	Ascending gradually over broken rocky land, through
	. Lecup	scattering cedar timber.
BECORE.	STOX FO	Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle
		point by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5800	80.00	
		Set a sandstone 30x16x6 ins. 20 ins. in the ground
		for 128th mile cor. Marked UTAH on N. 37 N. L. on
	. Attenan	E. ARIZ. on S. and 128 M. on W. faces. Dug pits
		36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
	AL ALL COLUMN	Raised a mound of earth $5\frac{1}{2}$ ft base $2\frac{1}{2}$ ft. high east of
		cor.
* 000		A cedar tree 10 ins. diam. bears N. 20° E. 18 lks.
		dist. Marked UTAH 128 M. B.T.
		No other trees within limits suitable for bearing trees
		Land mountainous rough and broken.
	NEW COMME	Soil sandy and rocky, 4th rate.
		Vegetation: grass, sage and a few cedars.
*	-	Barometer 5800 ft. Thermometer 50°.
		days have now you have now you have now the same one and the same one and
AND DESCRIPTION OF THE PERSON	The state of the s	

ALTITUDE	Chains	DATE HALL THE STATE OF STATE THE TEACHTON OF ANIESTA.
* LITTUDE	CHAINS	129th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Ascending gradually over rocky land through cedar
		timber.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5875	80.00	North 7 lks. from the tangent.
		Set a sandstone 36x18x6 ins. 24 ins. in the ground
		for 129th mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 129 M. on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
	NO STORY	dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
	10.897	high east of cor.
		A cedar tree 12 ins. diam. bears S. 18° 40' E. 69 lks.
		dist. marked ARIZ. 129 M. B.T.
		No other trees within limits suitable for bearing
CONTRACT.	Light dated	trees.
Linderte		Land mountainous.
		Soil rocky and sandy, 4th rate.
1		Vegetation: grass, sage and a few cedars.
	- 101	Barometer 5875 ft. Thermometer 55°.
	. sects	What Ope Is With Days Jame Street Area Cycle Color.
owit !		130th Mile.
tatos p		S. 89° 58' E. on tangent to the parallel.
	man Bu.	Ascend gradually over broken rocky land, through
		timber.
6000	40.00	On top of high ridge, divide between the Paria and
a planta filia	CALLY GUA	Sentinel Rock Creek. Bears N. E. and S. W.
con ord	TAIRT	Culminates in a round peak about 1 mile N.E.
100/70/	PAGE NOTE NO.	Leave timber, bears N. E. and S. W. Thence along
m/s.d	of Person	gentle south slope.
		Difference between measurements of 80 chs. by two
P. Th. P. S.		sets of chainmen is 12 lks. Position of middle

point by 1st set 80.06 chs. By 2nd set 79.94 chs. The mean of which is 5900 80.00 North 12 1ks. from the tangent, Set an iron pipe 2 ins. diam. 5 ft. long with flanges at the bottom 3 ft. in the ground for 130th mile cor. A brass cap on the top of the pipe has raised letters UTAH on N. ARIZ. on S. and 130 M. stamped in the center Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft. dist. Raised a mound of earth 5 ft. base 2 ft. high around the post, Land mountainous. Soil sandy and stoney, 4th rate. Wegetation: grass, sage and cedar timber. Barometer 5900 ft. Thermometer 60°. May 6th, 1901. 131st Mile. I examine the adjustments of the transit and compare the steel tapes with the standard and find everything correct. S. 89° 57' E. on tangent to the parallel. Descend gradually along gentle south slope. Difference between measurements of 80 chs. by two sets of chainmen is 4 lks. Position of middle point by 1st set 80.02 chs. By 2nd set 79.98 chs. The mean of which is 5850 80.00 North 19 1ks. from the tangent. Set an iron pipe 2 ins. diam. 5 ft. long with flanges at the bottom 3 ft. in the ground for 131st mile cor. A brass cap on the top of the pipe has raised letters UTAH on N. ARIZ. on S. and 131 M. stamped in the center. Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft, dist. Raised a mound of earth 5 ft. base 2 ft. high around the post.

The second secon	A CONTRACTOR OF THE PARTY OF TH	
ALTITUDE	Chains	Land mountainous.
-		Soil sandy, 4th rate.
		Vegetation: grass and sage.
		Barometer 5850 ft. Thermometer 50°.
En,		
9.		132nd Mile.
		S. 89° 57' E. on tangent to the parallel.
		Descend over rocky land along E. slope.
	41.45	On rocky slope on N. W. side of rough canon.
		Stadia measurement. Angle 8°- Rod 12.415 double =
ort .		2483 ft. Constant 98.06 x 2483 = 2435.03 ft. + C =
		1.14 = 2436.17 ft. = 36.91 chs. + 41.45 chs. = 78.36
	4	chs.
	68.00	Bottom of rocky chasm about 400 ft. deep, course N.E.
8617575	78.36	On rocky spur, slope N. E. Thence by tape measurement.
Car and a		Difference between measurements of 43.09 chs. by two
32	ς	sets of chainmen is 4 lks. Position of middle
Trace and		point by 1st set 43.11 chs. By 2nd set 43.07 chs.
		The mean of which is 43.09 chs. + 36.91 chs.=
5000	80.00	North 27 lks. from the tangent.
		Set a sandstone 36xllx7 ins. 24 ins. in the ground
		for 132nd mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 132 M. on W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft, high east of cor.
		Pits impracticable.
		Land rough and broken.
		Soil very rocky, 4th rate.
		Vegetation: grass, sage and scattering cedar.
		Barometer 5000 ft. Thermometer 60°.
4	- 15	April 1-22 - The same was seen and drift area (the same and and grad area (the
		133rd Mile.
		S. 89° 56' E. on tangent to the parallel.
		Descend over crags.
1		

ALTITUDE	CHAINS	Stadia measurement. Angle 12° - Rod 11.215 = 2243
		ft. Constant 95.68 x 2243 = 2146.10 + C. = 1.12 =
		2147.22 ft. = 32.53 chs.
	32,53	On rocky ledge, bears N. E. and S. W. Stadia.
		Angle 10°- Rod 9.79 double = 1958 ft. Constant 96.98 x
		1958 = 1898.87 + C = 1.13 = 1900 ft. = 28.78 chs. +
	THE C	32.53 = 61.31 chs.
4300	50.83	Foot of mountain, bears N. E. and S. W.
	61.31	Stadia point. Thence by tape measurement.
-m in the	62.00	Dry gulch, course N. E.
ad 0 (pa	. 77-ED.	Difference between measurements of 18.69 chs. by two
THE ST	e . gite i	sets of chainmen is nothing.
		Mean is 18.69 chs. + 61.31 chs. =
4350	80.00	North 37 lks. from the tangent.
	No. of Lot	Set an iron pipe 2mins. diam: 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 133rd mile cor.
		A brass cap on the top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 133 M. stamped in the cent-
		er. Dug pits 36x36x18 ins. N. S. E. and W. of cor.
		6 ft. dist. Raised a mound of earth 5 ft. base 2 ft,
		high around the post.
		Land mountainous.
		Soil sandy and rocky, 4th rate.
		Vegetation: grass, sage and scrub cedar.
		Barometer 4350 ft. Thermometer 750.
		0 or 4 1 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2
		134th Mile.
The state of		S. 89° 55' E. on tangent to the parallel.
	22.50	Over rolling sand hills.
	27.50	Dry gulch, course N. E. Dry gulch, course N. E.
4300	44.50	On sand ridge, bears N. E. and S. W. Offset south
2000	7.1.000	15.39 chs. to avoid a mass of rock, the base of which
		is 10 chs. ahead on the line and bears N. and S.
		The walls are nearly perpendicular and rise to a

D O O T (I		DETWEEN THE STATE OF CTAIL AND THE TERRITORY OF E
ALTITUDE	CHAINS	height of about 400 ft. The top is inaccessable.
		There is a cave in the sandstone on the line of the
		tangent on the west side. At the base of the rock
		west of the cave are the water pockets known as the
		blue pools. A dry gulch at the west base drains N.
		From the point 15.39 chs. south of the tangent I ran
		a coo 551 E. on the offset line parallel With
		tangent. Stadia. Angle 12°+ Rod 13.00 ft. double =
		2600 ft. Constant 95.68 x 2600 = 2487.68 + C. =
		1.12 = 2488.80 ft. = 37.71 chs. + 44.50 chs. = 82.21
		The state of the s
		chs. M. Comes on slope of wall. Impracticable to establish
	80.00	Comes on slope of wall.
		the corner.
		Land mountainous, much broken.
- old		Soil rocky and sandy, 4th rate.
	0 - 80	Vegetation: grass and sage.
		ageth Wild.
		135th Mile.
	200 00.0	S. 89° 55! E. continuing on offset line.
		Ascend. On top of wallon mesa bears N. W. and S. E. Stadia
horre	2.21	On top of wallion mesa pears we are measurement.
110		point. Thence by tape measurement. Difference between measurements of 44.86 chs. by two
n. A	an kadaga	Difference between measurements sets of chairmen is 2 lks. Position of middle point
. Ton	te julia	by 1st set 44.87 chs. By 2nd set 44.85 chs.
		The mean of which is 44.86 chs. + 37.71 chs. =
	theil and	
4-1966	nerwou.	82.57 chs 80.00 chs.= Set off from this line 1.51 chs. N. to edge of cliff
4830	2.57	that bears E. and W. This being as near the parallel
		as we can get. This offset south of the tangent
la l		is 15.39 chs. The offset north from the tangent
		for this cor. is 49 lks. then 15.39 chs. + 0.49 chs.=
		15.88 chs 1.51 chs. = 14.37 chs. which is the
		distance of this point south of the true parallel.
		Set a sandstone 36x15x8 ins. on bed rock for witness
		corner for 134th mile cor. marked W. C. UTAH on N.

ALTITUDE	CHAINS	
-0.L	aller in the same	37 N. L. on E. ARIZ. on S. and 134.032 M. on the W.
ie/Cr n	diemps.	faces. Raised a mound of stone 5 ft. base 2 ft.
door	and to i	high around the cor. And raised a mound of stone
Page 1	at muses	$5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
. A m	and one	Pits impracticable.
start T	danigana)	This cor. stands on N. W. corner of high mesa.
- nd	ATTEN IN	Barometer 4830 ft. Thermometer 80°
a finan	Ma He.	Realist was considerated
	par en.	S. 89° 55' E. continuing on offset line which is
50.88	a World x	15.39 chs south of the tangent and parallel with it.
		Over rocky mesa.
matica	44.24	Set back north 15.39 chs. to the tangent to the
		parallel, Thenew Sogos E. on The tangent to the parallel,
4830	57.30	East edge of mesa, top of wall bears N. and S. Descend
		Stadia measurement. Angle 170- Rod 9.20 double =
		1840 ft. Constant 91.45 x 1840 = 1682.68 + C =
		1.10 = 1683.78 ft. = 25.51 chs. + 57.30 chs. =
		82.81 chs.
		Measured back west 2.81 chs. leaving 80.00 chs.
4400	80.00	North 62 lks. from the tangent.
	O.M.	Set a sandstone 30x18x6 ins. 20 ins. in the ground
		for 135th mile cor. Marked UTAH on N. 37 N. L. on
AND TO	The second	E. ARIZ. on S. and 135 M. on W. faces. Raised a
tilling.		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
	m . Hills .	This cor. stands at the foot of wall that bears N.
		and S. and at the head of-a dry gulch, course N. E.
ESLED	the section !	Land mountainous, broken and rocky.
lof.feam	fint rust	Soil rocky, 4th rate.
100		Vegetation: grass and sage.
	dia - No	Barometer 4400 ft. Thermometer 80°.
w. K. (i)	200 4 .	Side were from these dates state about some state about s
	d dat an	The Thirty of a table of the contract of the c

	DUUTI	DILLI HILLI	DELIVEDITATION OF CAME AND ADDRESS OF TAXABLE OF TAXABL
	ALTITUDE	CHAINS	136th Mile.
	Ecni . E	.1 .1	S. 89° 54! E. on tangent to the parallel.
	7-1	west A la	Descend over rolling sand hills.
2.1		3.00	Dry gulch from cor. course S. E.
		9.00	Same gulch, course N. E.
		24.25	Dry gulch, course N. E.
		77.00	Dry gulch, course N. E.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 6 lks. Position of middle point
			by 1st set 80.03 chs. By 2nd set 79.97 chs.
			The mean of which is
	4375		North 76 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	gyd	eller i	at the bottom 3 ft. in the ground for the 136th mile
	ratba	o cho ku T	cor. A brass cap on top of the pipe has raised
		. nmp. Y	letters UTAH on N. ARIZ. on S. and 136 M. stamped
			in the center. Dug pits 36x36x18 ins. N. S. E. and
			W. of cor. 6 ft. dist. Raised a mound of earth
	mental r	Little br	5 ft. base 2 ft. high around the post.
		PONE BES	Land rolling sand hills.
	henger	and being	Soil sandy, 3rd rate.
	nt fe	M. neuer	
	.W bto	1.0	
		one falls	Sentinel Rock bears N. 57° 49' E.
			137th Mile.
			S. 89° 53' E. on tangent to the parallel.
			Over rolling sand hills.
			Difference between measurements of 80 chs. by two
	1000		sets of chainmen is 4 lks. Position of middle point
			by 1st set 80.02 chs. By 2nd set 79.98 chs.
	455		
	4350	80,00	North 92 lks. from the tangent. Set an iron pipe 2 ind. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 137th mile cor.
			A brass cap on the top of the pipe has raised

20,		THE DELIVERATE THE STREET OF STREET OF ARTHURA.
ALTITUD	DE CHAINS	letters UTAH on N. ARIZ. on S. and 137 M. stamped
		in the center. Dug pits 36x36x18 ins. N. S. E. and
	l the same	W. of the cor. and 6 ft. dist. Raised a mound of
		earth 5 ft. base 2 ft. high around the post.
		Land rolling.
		Soil sandy, 3rd rate.
	1043	Vegetation: grass and sage.
ACCOM.	t wir i mile	Barometer 4350 ft. Thermometer 75°.
Index s	n Liffigure de	Sentinel Rock bears N45 35 E.
	1 SEC. 711.	Subpactory's
		138th Mile.
The little is a second	Service .	S. 89° 53' E. on tangent to the parallel.
anuda C	PRINTER SE	Over rolling sand hills.
malmoy.	the con-	Difference between measurements of 80 chs. by two
bea	in ter	sets of chainmen is 6 lks. Position of middle point
	rmen . H	by 1st set 80.03 chs. By 2nd set 79.97 chs.
Aug.	M. H.	The mean of which is
4000	80.00	North 110 1ks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
11476	Till to the state of	at the bottom 3 ft. in the ground for the 138th
		mile cor. A brass cap on top of the pipe has raised
		letters UTAH on N. ARIZ. on S. and 138 M. stamped in
		the center. Dug pits 36x36x18 ins. N. S. E. and W.
		from the cor. 6 ft. dist. Raised a mound of earth
		5 ft. base 2 ft. high around the post.
		Land rolling.
		Soil sandy, 3rd rate.
		Vegetation: grass and sage.
	AT A COUNTY	Barometer 4000 ft. Thermometer 70°.
		May 7th, 1901.
	. 4275	AND
	74	I examine the adjustments of the transit and compare
		the steel tapes with the standard and find all
		correct this morning.

ALTITUDE	Chains	139th Mile.
-	45 11	S. 89° 52' E. on tangent to the parallel.
		Over rolling sand hills. Descending,
	48,50	Rocky canon, dry, about 50 ft. deep, course N. E.
		Ascend along N. slope.
		Difference between measurements of 80 chs. by two
		sets of chaimmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
4040	80.00	North 129 1ks. from the tangent.
		Set a sandstone 32x21x6 ins. 21 ins. in the ground
		for the 139th mile cor. Marked UTAH on N. 37 N. L.
	•	on E. ARIZ. on S. and 139 M. on the W. faces.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
17.2		of cor. Pits impracticable.
		Land rolling.
0.00	. an	Soil sandy and rocky, 3rd rate.
Part of 6		Vegetation: grass and sage.
	. 4116	Barometer 4040 ft. Thermometer 55°.
and the state of		140 th Mile.
****		S. 89° 51' E. on tangent to the parallel.
		Ascending along north slope.
Date:	45,50	Narrow rock canon 30 ft. deep, dry, course N. Ascend.
4100	57.50	Top of rocky ridge, bears N. and S. Descend.
	60.00	Dry gulch, course N. E. Ascend along N. W. slope.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
	· A major	by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
4200	80,00	North 150 lks. from the tangent.
		Set a sandstone 30x12x10 ins. 20 ins. in the ground
	MA VIEW	for 140th mile cor. Marked UTAH on N. 37 N.I. on E.
		ARIZ. on s. and 140 M. on the W. faces.
		Raised a mound of stone 51 ft. base 21 ft. high

	ALTITUDE	Chains	east of cor. Pits impracticable.
		. 10	This cor. stands on north edge of mesa.
			Castle Rock bears N. 74° E. Sentinel Rock bears
	E. 2	off marcine	N. 33° 20' W. North end of Table Mountain bears
			s. 51° E.
	5000	Mar. and	Land rough and broken.
	rator.	appeared to	Soil rocky and sandy, 4th rate.
		, mms av	Vegetation: grass and sage.
			Barometer 4200 ft. Thermometer 60°.
			The state of the s
	hearo	the entry	141st Mile.
		ME TO TE	S. 89° 51' E. on tangent to the parallel.
		. appul	Descend over rock cliffs, bears N. W. and S. E.
	dano o	22.00	Foot of steep slope about 250 ft. below top, bears
		61.00	N. W. and S. E. Descend gradually. Bry gutch course M.E.
		61.00	Difference between measurements of 80 chs. by two
			sets of chainmen is 16 lks. Position of middle point
			by 1st set 80.08 chs. By 2nd set 79.92 chs.
			The mean of which is
	3900	80,00	North 172 lks. from the tangent,
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		100	at the bottom 18 ins. in the ground to bed rock
			for 141st mile cor. A brass cap on top of the
	, habout		pipe has raised letters UTAH on N. ARIZ. on S. and
			141 M. stamped in the center. Dug pits 36x36x18 ins.
-	* 91		N. S. E. and W. of the cor. 6 ft. dist. and raised a
-			mound of earth and stone 5½ ft. base 2½ ft. high
			around the post.
		. 111,100	Castle Rock bears N. 67° 10' E.
-			Sentinel Rock bears N. 51° 15' W.
The state of the s			Land sloping N. E.
Committee Commit			Soil rocky and sandy, 3rd rate.
The state of the s			Vegetation: grass and sage.
Name of Street, or other Persons			Barometer 3900 ft. Thermometer 75°.
1			

No. of the second

Erratum.

742d mile.

The length of the 142d mile found by the examiner to be 77.71 chs. in length. See report of examination.

_			
	ALTITUDE	Chains	142nd Mile.
	1,11	· · · · ·	S. 89° 50' E. on tangent to the parallel.
		× 1=1	Descending along N. E. slope.
		53.00	West bank of Sentinel Rock Creek.
		-	Stadia measurement. Level, Rod 3.19 ft. = 319 ft. +
			C = 1.15 = 320.15 ft. = 4.85 chs. + 53.00 = 57.85 chs.
	3600	55.00	Dry bed of creek 75 lks. wide, banks 80 ft. high,
			course S. E. for about 5 chs. then S.
		57.85	Stadia point, tape measurement from here. Ascend.
			Difference between measurements of 75.15 chs. by
			two sets of chainmen is 6 lks. Position of middle
			point by 1st set 75.18 chs. By 2nd set 75.12 chs.
			The mean of which is 75.15 + 4.85 chs. =
	3825	80.00	North 196 1ks. from the tangent
			Set a sandstone 36x18x12 ins. 24 ins. in the ground
	- 12		for 142nd mile cor. Marked UTAH on N. 37 N. L. on
			E. ARIZ. on S. and 142 M. on W. faces.
		m.m. 04	Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
			of cor. Pits impracticable.
			Land broken and rocky, 3rd rate.
		not de la	Vegetation: grass and sage.
		TE M. Th	Barometer 3825 ft. Thermometer 79°.
		James M.	
	. 19 0	Ton to	143rd Mile.
	- M. W.	har 7 %	S. 89° 49' E. on tangent to the parallel.
			Ascend over rolling sand hills.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
			by 1st set 80.02 chs. By 2nd set 79.98 chs.
	2050	80,00	The mean of which is
	3950	30,00	North 221 1ks. from the tangent. Set an iron pipe 2 ing. diam. 5 ft. long with flanges
			at the bottom 2 ft. in the ground to bed rock for
			143rd mile cor. A brass cap on top of the

20011	211111 14111	I but what the civil of animotia.
ALTITUDE	CHAINS	pipe has raised letters UTAH on N. ARIZ. on S. and
		143 M. stamped in the center. Dug pits 36x36x18
		ins. N. S. E. and W. of the cor. 6 ft. dist.
		Raised a mound of earth and stone $5\frac{1}{2}$ ft, base $2\frac{1}{2}$ ft.
. (12)		high around the post.
im en.	v8 m '90	Land rolling.
	11.12	Soil rocky and sandy, 3rd rate.
		Vegetation: grass and sage.
Bron	mA .m	Barometer 3950 ft. Thermometer 82°.
	, mdb 8	Castle Rock bears N. 7 ° 30' E. about a mile dist.
	m to he	n stage , with not been been been been been been been bee
		144th Mile.
		S. 89° 49' E. on tangent to the parallel.
4005		Ascend over rolling land.
4025	27,60	odouto nock bears
		N. 10° 55' W. Thence over rolling ground.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
3975	80,00	North 247 lks. from the tangent.
		Set a sandstone 30x10x7 ins. 20 ins. in the ground
		for the 144th mile cor. Marked UTAH on N. 37 N. L.
		on E. ARIZ. on S. and 144 M. on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. and raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
		high east of cor.
		Land rolling.
		Soil sandy, 3rd rate.
		Vegetation: grass and sage.
		Barometer 3975 ft. Thermometer 78°.
		Castle Rock bears N. 43° 15' W.
41.11.11		May 8th, 1901.
		AND

ALTITUDE	Chains	At the 144th mile corner, May 9th, 1901, at 4h 16m
		A.M. l.m.t. I observe Polaris at eastern elongation in
		accordance with instructions in the manual and mark
		the line so determined on a plug driven in the ground
		north of my station.
		At 8h A.M. I lay off the azimuth of Polaris 1° 31.9'
		to the west and mark the true meridian so determined
		on a plug driven in the ground north of my station.
		The magnetic bearing of the true meridian is N. 14°
61		59' W' This reduced by the table page 100 of
NR 0811		the manual gives the mean magnetic declination 14°
		56' E.
		I now lay off an angle of 90° to the eastfrom the said
Tuesday B		meridian for the tanget to the parallel.
Sagro	mean na	In all these operations the mean of at least four
n.httl?		sights is taken with the telescope reversed at each
	Major A	sight, taking care beforehand, that the instrument
La Str	orte majer	is in perfect adjustment. I compare the tapes with
4 50 .1	STABLE	the standard and find them correct.
PC# .	-	145th Mile.
	54.00	East on tangent to the parallel.
47.00	34.60	Top of ridge, bears N. and S. Descend gradually.
4100	72.00	Colorado River bluff, bears N. E. and S. W. Descend.
	na tredu	The Tower bears S. 71° 38' E. across the river about
0 11 15 16	PERMIT	7 miles dist. A red point south salient of cliffs
		bears N. 550 02' E.
		Difference between measurements of 80 chs. by two
		sets of chairman is 12 lks. Position of middle point
		by ist set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
4035	80.00	North .76 of lk. from the tangent.
		Set a sandstone 33x8x7 ins. 22 ins. in the ground
		for 145th mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 145 M. on W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.

BOUN	DARY LINE	E BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	Pits impracticable.
dorran		Land rolling and broken.
Martin In		Soil sandy, 3rd rate.
GEORGE W.		Vegetation: grass and sage.
		Barometer 4035 ft. Thermometer 60°.
9. 78. 01		To Residue part mo and the second
	eh shun	146th Mile.
	ay que so	S. 89° 59' E. on tangent to the parallel.
		Descend over rugged bare sandstone.
	1.00	Stadia measurement from this point. Angle 60 -
	Charles & Ball	Rod 10.42 double = 2084 ft. Constant 98.92 x 20.84 =
		2061.49 + C. = 1.14 = 2062.63 ft. = 31.25 chs. + 1 ch.=
		32,25 chs.
3875	32,25	On west wall of Colorado River canon, perpendicular
		600 ft. above the water at the mouth of Warm creek
		that comes in through a canon from the N. W. This
		wall bears S. and N. W. along the west side of Warm
		creek. The river canon wall comes from the N. E. and
		turns S. at this point. Chimney Rock bears N. 51°
		54' E. A scuth salient of red cliffs bears N. 49°
	Market No.	55' E.
Croment		I set a flag across the river on this line and as it
two serve	War name	is impossible to get a base from this point for
A PER A SIGN	Tree distance	triangulation, I set a flag at this point in a mound
		of stone and proceed to transport the outfit across
		the river.
		May 9th, 1901.
		For the next few days we are busy getting the pack
		train down to the water's edge at the old Ute Crossing
		or what is known as the Crossing of the Fathers,
70. 5		about 3 miles north and five miles east of this point.
JI W		The river was nearly at high water mark, deep, swift
		and full of whirlpools. We had a four oared boat
		from Lees Ferry and carried the provisions, camp out-

fit, the men and the burros over in the boat and

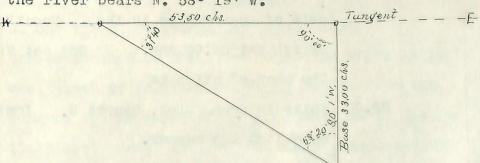
ALTITUDE

CHAINS

Swam the seventeen horses one at a time behind the boat.

Established the 4th Astronomical Station on a little rocky butte at a bend in the river on the N. W. side. The water can be reached at this point. Owing to the walls of the canon being nearly perpendicular, there are very few places where the water can be reached on the west side of the river and none on the east side from the Ute crossing down several miles below where the boundary line crosses. I set a flag at the Astronomical Station.

May 17th, 1901, went to the flag on the tangent line on the east side of the Colorado River. Set the instrument at this point and take a back sight on the flag on the west side of the river. Turn an angle of 90° from this flag to the south and measure a base line of 33.00 chs. course §. 0° 01' W. Set instrument at south end of base line and sight to flag on north end. Measure the angle to the west to the flag on the west side of the river. Find the mean of four sights to be 58° 20'. The flag across the river bears N. 58° 19' W.



log. base 33.00 chs. = 1.518514 log. tan. 58° 20' = 10.209849 1.728363 = 53.50 chs. +

32.25 chs. = 85.75 chs.

Ran was spir rom N. end of base 5.75 chs. = 80.00 chs.

The water in the river is inaccessable from the east side of the river which is about 10.00 chs. wide at this point. Elevation of the water in the river is 3275 ft.

BOOK 2628

ALTITUDE	CHAINS	I A TA CAN DANCE OF STREET ALL CAND ON THE ART ALL
 4100	80.00	North 3 lks. from the tangent.
izeszc i	no cel	Set a sandstone 31x12x6 ins. on bare rock for 146th
5. T	, 66 mg/a .)	mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
WO .31	log niri	on S. and 146 M. on the W. faces. Raised a mound of
un.Im libr	ogress r	stone 5 ft. base 2 ft. high around the cor, and
ed :	in the	raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
120 200 0	on hills	of cor. Pits impracticable.
Masser	antewer.	Land nearly all bare rock.
an a		Soil none.
		Vegetation none.
ensi en	STATE OF	This cor. stands on bare rock near the top of the
entr	. n	river canon on the east side of the river that bears
Latte de	Charles Steel	S. and N. about 3 chs. then turns to the N. E. The
lus re		canon wall slopes to the west. Water worn sandstone
Philippin	den cin	to the water's edge.
	W 150 -	Barometer 4100 ft. Thermometer 80°.
regare	twee one	
- tarrer		147th Mile.
10/7 2		S, 89° 59' E. on tangent to the parallel.
Paris Syri		Ascend over bare san dstone.
		Difference between measurements of 80 chs. by two
	1-7-00-7-1	sets of chainmen is 12 lks. Position of middle point
	in a l	by 1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
	80.00	Falls in deep gulch, course N. Impracticable to
		establish the corner.
		Land rough bare rock.
		Soil very little, nearly all rock.
		Vegetation very scanty.
		Comment destroy comment parties operate destroy delicte delict
or i		148th Mile.
		S. 89° 58' E. continuing on the tangent.
4275	4.52	North 7 lks. from the tangent.
		Set a sandstone 36x18x6 ins. on bare rock for the
		147th mile cor. Marked UCAH on N. 37 N. L. on E.

ARIZ. on S. 147.056 M. on the W. faces. Raised a ALTITUDE CHAINS mound of stone 5 ft. base 2 ft. high around the cor. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor. Pits impracticable. About 2 chs. north to the canon wall, drops nearly vertical about 1000 ft. to the water's edge. Barometer 4275 ft. Thermometer 80°. S. 89° 58' E. continuing on the tangent. Over broken rock along the canon wall. Offset 10.00 chs. south to avoid river canon. 9.50 Ran S. 89° 58' E. parallel with the tangent.

Difference between measurements of 80 chs. by two sets of chainmen is 10 lks. Position of middle point by 1st set 80.05 chs. By 2nd set 79.95 chs. The mean of which is

80.00 Point for 148th mile cor. comes on broken cliff. Impracticable to establish the corner. Land rough, rocky and broken. Soil very scanty, nearly all solid rock. Vegetation very scanty, grass and sage.

149th Mile.

4300 7.32 S. 89° 57' E. continuing on offset line. Offset north 2.90 chs. from this line which is 10 chs. south of the tangent. The offset from the tangent to the parallel at this point is 13 lks. = 10.13 chs. - 2.90 chs. = 7.23 chs. The distance which this cor, stands south of the parallel. Set a sandstone 38x21x6 ins. on the bare rock for witness cor. for the 148th mile cor. Marked W. C. UTAH on N. 37 N. L. on E. ARIZ. on S. and 148.092 M. on the W. faces. Raised a mound of stone 5 ft. base 2 ft. high around the cor. Raised a mound of stone 5½ ft. base 2½ ft. high east of cor.

Pits impracticable.

H	LOTINE	INT HILL	her when the State of bight and the territions or withoug.
ALTITU	DE	CHAINS	The true point on the parallel falls in the canon
The -		Michael I	about 800 ft. lower.
Take 1			Land rough, rocky and broken.
			Barometer 4300 ft. Thermometer 80°.
- Marian	1960	is points	S. 89° 57' E. continuing on offset line 10.00 chs.
		outo,	south of the tangent and parallel with it.
			Along south wall of canon.
		35,32	Leave bare rock, enter sand hills, bears N. and S.
			Set back north 10.00 chs. to the tangent. Thence \$2.890
			57' E. on the tangent to the parallel.
		72,32	On spur, slopes N. Chimney Rock bears N. 17° 07' E.
-			The Tower bears S. 490 00' E.
o'slog	0.00		Difference between measurements of 72.68 chs. by two
			sets of chainmen is 6 lks. Position of middle point
			by 1st set 72.71 chs. By 2nd set 72.65 chs.
	The party		The mean of which is 72.68 chs. + 7.32 chs. =
45	00	80.00	North 19 lks. from the tangent.
			Set a sandstone 30x18x6 ins. 20 ins. in the ground
			for 149th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 149 M. on the W. faces. Dug pits
			36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
			Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
		. 57	east of cor.
0.0	. 107		Land rolling and broken.
	uffi ja		Soil rocky and broken, 4th rate.
F .	4:4		Vegetation: grass and sage.
200	Promise at		Barometer 4500 ft. Thermometer 850
			River Canon about 20.00 chs. N.
			and different long over one one year way four one year was now one one
. 0	*		150th Mile.
			S. 89° 57' E. on tangent to the parallel.
			Over sand hills along N. slope.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.

		A LLIA CONTACTOR AND BUT AND BUT AND
ALTITUDE	CHAINS	The mean of which is
4550	80.00	North 27 lks. from the tangent.
		Set a sandstone 30x15x6 ins. 20 ins. in the ground
		for 150th mile cor. Marked UTAH on N. 37 N. L. on
	1.00	E. ARIZ. on S. and 150 M. on W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
1		Pits impracticable.
		Chimney Rock bears N. 0° 40' W. The Tower bears S.
anim :	en phi	32° 10' E. Red point south salient of cliffs, bears
	fat	N. 43° W. From the point of the tangent 27 lks.
0.000	Short o.	south of the corner I turn an angle from the tangent
	note . t	line produced, course S. 89° 56' E. to the north of
Jane Barbar	e suft no	flag at the 44° to the temporary astronomical observatory across
3 300	AND DESCRIPTION OF THE PARTY OF	the river. Flag bears N. 46° 04' E.
med off.	JE NO.	Land rolling.
	TRANS.	Soil rocky and sandy, 4th rate.
C. Thursday		Vegetation: grass and sage.
		Barometer 4550 ft. Thermometer 85°.
		151st Mile,
		S. 89° 56' E. on tangent to the parallel.
		Over sand hills and sandstone croppings. Ascend.
	10.00	Top of sand ridge, bears N. and S. Descend.
	62.00	Leave sand hills, bears N. W. and S. E. Thence over
		bare sandstone.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 14 lks. Position of middle point
		by 1st set 80.07 chs. By 2nd set 79.93 chs.
, et . erto	MAL SALE	The mean of which is
4520	80.00	North 37 lks. from the tangent.
		Set a sandstone 34x12x6 ins, on bare rock for 151st
		mile cor. Marked UTAH on N. 37 N.L. on E. ARIZ.
de e maile	Tree por Paris	on S. and 151 M. on the W. faces. Raised a mound
		of stone 5 ft. base 2 ft. high around the cor.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high

DUUN	DANI LINI	DETWEEN THE STATE OF UTAH AND THE TERRITORS OF ARIZONA.	
ALTITUDE	Chains	east of cor. Pits impracticable.	
		The Tower bears 3.8° 20' E.	
Binnier	Town 10	Chimney Rock bears N. 15° W.	
ma	or was a	Land rolling and broken.	
	0200	Soil sandy and rocky, 4th rate and none.	
weers of	a suite de	Vegetation: grass and sage.	
		Barometer 4520 ft, Thermometer 85°.	
Control	-2000		
Marine .			
att		S. 89° 55' E. on tangent to the parallel.	
		Over bare sandstone on which there are many cone	
44.04		shaped buttes of sandstone about 30 ft. high.	
Name and Address of the Owner, when the Owner, when the Owner, where the Owner, which is the Owner, where the Owner, which is th	40.00	At this point I take a back sight along the tangent	
		which bears N. 89° 55' W. and measure the angle	
		towards the north of 82° 20' to the flag at the tem-	
		porary astronomical station across the river. Flag	
		bears N. 7° 35' W. Then taking the angles as measured	
		from the tangent we have 44° 00' + 82° 20' + 53° 40'=	
		180° 001.	
		o Tempuriary Observa tory	
		53°46 0;	
and the second		2	
		103	
The same		\$5.7 W	
		100 100 100 100 100 100 100 100 100 100	
The state of	tari'i	W Tangent E	
1 1000	100	Then Sin. 53° 40': Sin. 44° 00' :: base 120.00 chs.	
		log, sin. 44°° 00° = 9.841771	
		$10g_{.0.95}$ 120 chs. = 2.079181 a. 6.95 53° 40' = 0.093889	
		7° 35' W. 2.014841 = 103.47 chs. N.	
		This by latitude and departure gives 102.57 chs. north	
		of the tangent. The latitude found at the temporary	
		observatory by astronomical observation is 370 01:	
		06.8". This equals 101.77 chs. north of the parallel.	
		The tangent south of the parallel at the 151st mile	

cor. is 37 lks. Consequently this cor. stands 43 lks.

			The state of the s
	ALTITUDE	Chains	south of the true parallel as determined by astron-
	Les	#mortow#	omical observation. This being within the limit of
	AN OWN	av ar	3" of arc allowed in the instructions I continue
	onesi	bus ne	the line.
	4300	48.00	On west brink of chasm, bears N. W. and S. E.
	8321	SHO	Stadia measurement. Level. Rod 10.79 ft. = 1079 ft.+
	30.000	O. TOD	C = 1.15 = 1080.15 ft. = 16.36 chs. + 48 chs. = 64.36
	19-00	noeb en	chs.
	3900	50.00	Bottom of narrow chasm worn in the sandstone about
		-	75 lks. wide and about 400 ft. deep, course N. W.
	4300	64.36	Stadia point. Thence by tape measurement.
	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	mand new	Difference between measurements of 63.64 chs. by two
,		e 0.0 Jul	sets of chainmen is 6 lks. Position of middle point
	Age ent	20 300	by 1st set 63.67 chs. By 2nd set 63.61 chs.
	- Incimi	ol Inol	The mean of which is 63.64 chs. + 16.36 chs. =
	4300	80.00	North 49 lks. from the tangent.
		to de a	Set a sandstone 32x20x6 ins. on bare rock for the
		wited	152nd mile cor. Marked UTAH on N. 37 N. L. on E.
		e ban	ARIZ. on S. and 152 M. on the W. faces. Raised a
		3.1 07 8	mound of, stone 5 ft. base 2 ft. high around the cor.
			and raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
		Aluen I	east of cor. Pits impracticable.
		n und n	Land rocky and broken.
			Soil none; bear rock.
		A STATE OF THE STATE OF	Vegetation none.
			Barometer 4300 ft. Thermometer 88°.
			man finale briller spins (black district dans dans dans dans dans dans dans dans
			153rd Mile.
			S. 89° 55' E. on tangent to the parallel.
	111		Ascend over ledges of sandstone.
	1		Difference between measurements of 26.60 chs. by
			two sets of chainmen is 2 lks. Position of middle
			point by 1st set 26.61 chs. By 2nd set 26.59 chs.
	J**. ***		The mean of which is 26,60 chs.
	4350	26,60	North 53 lks. from the tangent.
	2000		

Set a sandstone shaft 6 ft. long by 28 ins. broad by

12 ins. thick dressed 8 ins. down from the top CHAINS ALTITUE set 3 ft. in the ground for the 4th Astronomical Monument, marked UTAH on N. 37 N. L. on E. ARIZONA with letters theirs. square on the S. and 152.332 M. deeply graven in the stone on the W. faces. Raised a mound of stone 6 ft. base and 2 ft. high around the shaft. 36x36x18 ins. N. S. E. and W. from the cor. 6 h. dist This cor, stands at the west base of the detritus from a great sandstone butte with a spire top that raises over a 1000 ft. shove the plain and the pinacle of which is nearly on the parallel. I have called it the State Line Butte. From this monument Chomney Rock bears N. 32° W' The Tower bears S. The Tower is a great rock about 10 chs. 25° W. square and flat on the top that rises out of the plain to a height of 1300 ft. This Astronomical Monument was not erected directly south of the temporary observatory for the reason that there was no stone there suitable for the shaft. The sandstone being coarse and friable and easily disintergrated, and owing to deep chasms, it was found impracticable to transport a stone of sufficient sixe to that point. From the tangent at this point I offset south 6.43 chs. to avoid the State Line Butte, the top of which is inaccessable. Ran S&SSS E. on the offset line parallel to the tangent. Stadia measurement. Angle 8° + Rod 7.715 ft. double = 1543 ft. Constant 98.06 X = 1513.06 + C = 1.14 = 1514.20 ft. = 22.94chs. + 26.60 = 49.54 chs.4600 49.54 On top of ledge of sandstone, bears N. W. and S. Top of spire of State Line Butte about 8 chs. N. W. Elevation of top of spire about 5600 ft. Stadia measurement. Angle 100- Rod 12.00 ft. Constant 96.98 x 1200 \neq 1163.76 + C = 1.13 = 1164.89 ft. = 17.65 chs. + 49.54 chs. = 67.19 chs. Foot of rock bears N. and S.

55.00

BOOK 2628

BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

ALTITUDE	CHAINS 67.19	Stadia point on plain. Set back, 6.43 chs. to the tan-
		gent line. Thence 589° 55' E. on the tangent to the
1.4600		parallel, by tape measurement. Descend gradually.
		Difference between measurements of 39.41 chs. by two
-brons	endd ne	sets of chainmen is 4 lks. Position of middle point
		by 1st set 39.43 chs. By 2nd set 39.39 chs.
ow.	yel , note	The mean of which is 39.41 chs. + 40.59 chs. =
4400	80.00	North 62 lks. from the tangent.
indo i		Set a sandstone 30x14x6 ins. 20 ins. in the ground
		for 153rd mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 153 M. on the W. faces. Raised a
nasati	топ жену	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
no .RI	BA AR DE	Pits impracticable.
ecto3#	no bruce	Land rolling and broken.
	/ benian	Soil rocky, 4th rate.
.200	to tene	Vegetation: grass and sage.
		Barometer 4400 ft. Thermometer 76°.
		May 17th, 1901.

May 18th, 1901, at 153rd mile cor. at 3h 4lm 1.m.t. I observe Polaris at eastern elongation in accordance with instructions in the manual and marked the line so determined on a plug driven in the ground north of my station. At 7h A. M. I lay off the azimuth of Polaris 1º 31.9' to the west and mark the true meridian so determined on a plug driven in the ground north of my station. Magnetic bearing of the true meridian is N. 15° 28' W. This reduced by the table page 100 of the manual gives the mean magnetic declination 15° 25' E. I now lay off an angle of 90° from the north to the east for the tangent to the parallel. In all these observations the mean of four sights is taken, the telescope reversed at each sight. I compare the tapes with the standard and find them correct.

 ALTITUDE	Chains	154th Mile.
ent o		East on the tangent to the parallel.
. 17.1		Descend along N. E. slope.
howb" gai	50.00	Dry gulch, course N. E. Ascend.
Inley a	74.00	
	in to on	stone.
	. bdo. R	Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
Direct	or orie, n	by 1st set 80.05 chs. By 2nd set 79.95 chs.
no.	SY N. U.	The mean of which is
4350	80.00	North .76 of lk. from the tangent.
-,200	o rake	Set a sandstone 30x16x10 ins. on bare rock for 154th
		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 154 M. on W. faces. Raised a mound of stone
	me ?" T	5 ft. base 2 ft. high around the cor. Raised a
	N Par	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	Mary 1	Pits impracticable.
	Part of	Land rolling and broken.
	No.	Soil sandy, 4th rate.
	True de	Vegetation: grass and sage.
arry later		Barometer 4350 ft. Thermometer 70°.
acts.		
to school		155th Mile.
20 8		S. 89° 59' E. on tangent to the parallel.
		Over bare sandstone worn by water in cone shaped hills.
		On rocky spur, slope N. W. Stadia from this point.
nii to		Angle 3° - Rod 8.80 double = 1760 ft. Constant
migrafia		99.73 x 1760 ft. = 1755.25 ft. + C = 1.15 = 1756.40
PARMET		ft. = 26.61 chs. + 52.28 chs. = 78.89 chs.
3950	63.00	Bottom of chasm about 400 ft. deep 50 Iks. wide with
ma be		a little water in the bottom, course N. W.
trade to		Stadia point on rock; thence by tape measurement.
Was 17		Difference between measurements of 53.39 chs. by two
DEFAT !		sets of chainmen is 8 1ks. Position of middle point

BOOK 2628

_			
	ALTITUDE	CHAINS	by 1st set 53.43 chs. By 2nd set 53.35 chs.
			The mean of which is 53.39 chs. + 26.61 =
	4250	80.00	North 3 lks. from the tangent.
			Set a sandstone 36x16x10 ins. on bare rock for 155th
	. <u> </u>		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
			S. and 155 M. on W. faces. Raised a mound of stone
	. 1		5 ft. base 2 ft. high around the cor. Raised a
		170.53	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
			Pits impracticable.
			Land rough and broken, bare sandstone.
			Soil none.
	o kith	and second	Wegetation none.
	and the same		Barometer 4250 ft. Thermometer 82°.
		r to the	156th Mile.
			S. 89° 59' E. on tangent to the parallel.
	CHA	en . nen	Ascend over broken rocks.
	nton et	45.00	Foot of rugged cliffs, bears N. W. and S.E. Ascend.
		Laine go.	Stadia measurement, Angle 10°+ Rod 10.00 Constant
			96.98 x 1000 ft. = 969.80 + C = 1.13 = 970.93 ft. =
			14.71 chs. + 45.00 chs. = 59.71 chs.
		59.71	Stadia point. Angle 30° + Rod 8.00 double = 1600
	111	on .nao	ft. Constant 75.00 x 1600 = 1200 + C = 0.99 = 1200.99
		TV. W	ft = 18.19 chs. + 59.71 chs. = 77.90 chs.
		77.90	Top of wall, bears N. W. and S. E. Thence by tape
			measurement.
		T	Difference between measurements of 47.10 chs. by two
			sets of chainmen is 6 lks. Position of middle point
			by 1st set 47.13 chs. 2nd set 47.07 chs.
			The mean of which is 47.10 chs. + 32.90 chs. =
	5250	80.00	North 7 lks. from the tangent.
			Set a sandstone 34x16x7 ins. on bare rock for 156th
			mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
			S. and 156 M. on W. faces. Raised a mound of stone
			5 ft. base 2 ft. high around the cor. and raised
			CONTRACTOR CONTRACTOR

1	2	
ALTITUD	E CHAINS	a mound of stone $5\frac{1}{2}$ ft, base $2\frac{1}{2}$ ft, high east of cor.
	1	Pits impracticable.
		This cor. on cliffs about 1000 ft. high.
115568	107 3000	Land rugged and broken.
110 , 15	M D. Str	Soil none.
Budga	a taya	Vegetation - a little sage in crevices of the rocks.
	m urit all	Barometer 5250 ft. Thermometer 80°.
. 900	9 1 100	
		157th Mile.
		S. 89° 58' E. on tangent to the parallel.
100		Over broken rock.
	5.00	I find it impossible to proceed any further on this
100		line owing to the great chasms and cliffs, therefore
		I offset south 89.00 chs. from the tangent; thence
		I runs 89° 58' E. on the offset line parallel with
		the tangent over bare sandstone.
		Difference between measurements of 80 chs. by two
, Dinne	40.0	sets of chainmen is 16 lks. Position of middle point
77121.	1200	by 1st set 80.08 chs. By 2nd set 79.92 chs.
	20,198	The mean of which is
4600	80.00	North 12 lks. from the offset line.
		Set a sandstone 33x14x6 ins. on bare rock for
a' corre	100 100 100	witness cor. for 157th mile cor. 89.00 chs. south
	100	of the parallel. Marked W. C. UTAH on N. 37 N. L.
	14F 497 2	on E. ARIZ. on S. and 157 M. on the W. faces.
	100	Raised a mound of stone 5 ft. base and 2 ft. high
	3.	around the cor. Raised a mound of stone $5\frac{1}{2}$ ft.
		base and 22 ft. high east of cor.
	100	Pits impracticable.
	7	Land mostly bare rock.
		Soil none.
		Vegetation none.
		Barometer 4600 ft. Thermometer 77°.
		May 18th, 1901.
	No.	

ALTITUDI	CHAINS	I examine the adjustments of the instrument and com-
		pare the tapes with the standard and find them correct.
-66	ever had	158th Mile.
		S. 89° 57' E. on offset line 89.00 chs. south of the
		tangent and parallel with it. The line traversed by
1.1 43	+ 13.10	the parallel is wholly inaccessable.
-, one		Ascend over bare sandstone.
n wie	80.00	Comes in saw tooth gap of great wall that bears N.W.
	1.	and S. E.
74 9	. batte (A)	Difference between measurements of 80 chs. by two
Triber.	participality	sets of chainmen is 20 lks. Position of middle point
	. Had SA	by 1st set 80.10 chs. By 2nd set 79.90 chs.
w(8.0)	F. 600 7	The mean of which is 80.00 chs.
	necono	Impracticable to establish the cor.
		Land very rough and much broken.
		Soil - sand and bare sand rock.
		Vegetation - grass and sage in crevices of the rocks.
		159th Mile.
		S. 89° 57' E. on offset line 89,00 chs. south of the
-1-10		tangent.
		Descend.
4400	9.60	North 20 lks. from the offset line.
		Set a sandstone 40x16x8 ins. 27 ins. in the ground
7010		for witness cor. for the 158th mile cor. Marked W. C.
	12 10 10	UTAH on N. 37 N. L. on E. ARIZ. on S. and 158.12 M.
	-	on the W. faces. Raised a mound of stone $5\frac{1}{2}$ ft. base
	1.70	$2\frac{1}{2}$ ft. high east of cor. Pits impracticable.
	The Line	This cor. stands 89.00 chs. south of the parallel
9.44		at foot of cliffs on east side of great wall and at
		the head of a rock chasm, course N. E.
		Impracticable to get any nearer the parallel.
		Barometer 4400 ft. Thermometer 72°

_			
	ALTITUDE	CHAINS	S. 89° 57' E. on offset line 89.00 chs. south of the
	bempon a	seds a ce	tangent and parallel with it.
			Over rough broken country across chasm and over de-
	after to	damp.	nuded sandstone.
		11.60	Stadia measurement. Angle 9°- Rod 12.84 single =
	Mark To		1284 ft. Constant 97.55 x 1284 = 1252.54 + C = 1.13
			= 1253.67 ft. = 18.99 chs. + 11.60 chs. = 30.59 chs.
	W.H. M	30,59	Rock spur, slopes N. W. Descend. Thence by tape
			measurement.
	OWS	to redu	Difference between measurements of 51.4% chs. by two
	110the	Dia so	sets of chainmen is 6 lks. Position of middle point
		erro pe.	by 1st set 51.44 chs. By 2nd set 51.38 chs.
			The mean of which is 51.41 chs. + 18.99 chs. + 9.60=
		80.00	Comes in dry bed of creek 1 ch. wide, course N. W.
			Impracticable to establish cor.
			Land rough, broken and rocky.
	1000	Mit To P	Soil sandy, 4th rate.
			Vegetation - grass and sage.
			COLDI CAROL
	0.54 90	dayon .	160th Mile.
			S. 89° 56' E. on offset line 89.00 chs. south of the
	120		tangent.
			Ascend.
	4500	19.21	North 29 lks. from the offset line.
	· 英、中 · 斯	deposition, by	Set a sandstone 30x16x6 ins. on bare rock on top of
	, JR 82	ght me,	a cone shaped butte for witness corner for 159th
	700 . 400	(S) Hillar	mile cor. 89.00 chs. south of the parallel. It is
		er make	impracticable to get any nearer the parallel. This
		April 188	cor. marked W. C. UTAH on N. 37 N. L. on E. ARIZ.
		T. Land	on S. and 159.24 M. on the W. faces. Raised a mound
			of stone 5 ft. base 2 ft. high around the cor.
		*** 1500	and raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
			east of the cor. Pits impracticable. Baron 45004. Ther 80°
			May 19th, 1901.

	ALTITUDE	CHAINS	S. 89° 56' E. on the offset line 89.00 chs. south of			
	. 11		the tangent and parallel with it.			
			Stadia measurement. Level. Rod 11.25 double = 2250			
	11 01		ft. + C = 1.15 = 2251.15 ft. = 34.10 chs. + 19.21 chs.			
	1 00		= 53.31 chs.			
		53.31	Stadia point. Angle 9° + Rod 11.95 double = 2390 ft.			
			Constant 97.55 x 2390 = 2331.84 ft. + C = 1.13 =			
	beff		2332.97 ft. = 35.34 chs. + 53.31 chs. = 88.65 chs.			
	m 21	80.00	End of 160th mile comes in rock gulch. Impracticable			
	+		to establish corner.			
		88,65	Comes in gap of rock wall that bears N. W. and S. E.			
	PENCL.		Rocks on each side of gap rise to a height of 700			
	7/7 (0.		or 800 ft. above the gap. From this point I run			
	6 3		north 89.00 chs. to intersect the tangent to the			
	Jones &		parallel. Thence I run N. 89° 55' W. back to the			
			westward on the tangent to the parallel 8.65 chs.			
			leaving 80.00 chs.			
	4475	80.00	The end of the 160th mile.			
	on at a		North 37 lks. from the tangent.			
	. onstro		Set a sandstone 30x19x6 ins. on bare sandstone on			
			the boundary line for 160th mile cor. Marked UTAH			
	. I hour d.		on N. 3L N. L. on E. ARIZ. on S. and 160 M. on the			
			W. faces. Raised a mound of stone 5 ft. base 2 ft.			
			high around the cor. Raised a mound of stone 52 ft.			
	9540	reserva	base 21 ft. high east of cor.			
	de M	12 10 101	Pits impracticable.			
Land rough and brol		The state of	Land rough and broken.			
	ente su	escant en	Soil none: all bare sandstone.			
	, mil Life	ening a g	Vegetation - none.			
	100113	, astar tea	This cor. stands on bare sandstone sloping N.			
	The same	n herma de	about 15 chs. west to foot of inaccessable cliffs,			
			that bear N. W. and S. E. and rise to a height of			
			more than 1000 ft. above the cor.			
			Barometer 4475 ft. Thermometer 70°.			
			samp state state page for a user done state state state state state state. State page			

	DUC	TID THE THE	DIT WILL THE STREET OF CITE THE THERETON OF INCHOUNT
	ALTITUDI	E CHAINS	l6lst Mile.
			S. 99° 55' E. on tangent to the parallel.
		n nilling	Descending over denuded sandstone.
	, min	int 4%	Stadia measurement. Angle 4° - Rod 10.37 single =
		1	1037 ft. Constant 99.51 x 1037 = 1031.92 + C =
	. 42,00	ali ajani	1.15 = 1033.07 = 15.65 chs.
	7-11-14	10.00	Bottom of chasm, course N. E.
		15.65	Stadia point on spur, slopes N. E. Angle 40- Rod
	o Citaro La	-	11.99 ft. = 11990ft.ft. Constant 99.51 x 1199 =
			1193.12 + C = 1.15 = 1194.27 ft. = 18.09 chs. +
		Ma . gr	15.65 chs. = 33.74 chs.
		33.74	On the east side of a rounded sandstone butte, there
	No.	ri V z dis	is a very deep chasm about 10.00 chs. ahead, too far
		Maria sa	across for stadia measurement and no chance for a
	PATE OF THE PATE O	- C+2	base line on this side. I build a sight mound here
			and erect a flag at this point.
			May 20th, 1901.
			We spend the next three days trying to get the camp
			outfit somewhere near the line, but the country is so
		MATERIA DE	rough that we cannot get the animals within 6 miles
	344.7	Acces de	of the line at the point where we left it.
		N. 11/20	May 24th, 1001, succeedein reaching the line at last.
	- 19-3	- A	Had to use the men for transporting a light camp
			outfit. By difficult and dangerous climbing
			succeeded in crossing the chasm from the east side
			and projected the tangent eastward. Set a flag on
			the line on the bluff across the chasm, went to it
			and sighting on flag on west side on the tangent line
			turned an angle to the north of 90° for a base line,
			course N. 0° 05' E. Measured base 30.00 chs. from
-			north end of base sight on flag at south end and
-			measure the angle to the flag across the chasm.
			The mean of four sights with instrument reversed at
			each sight gives this angle 59° 56'.
	Mary Y		

ALTITUDE	Chains	
	7 11	
		5966
		30,00
n Luei Cal	Tarana and	88 6 5
	a mar ato	
130 00 00 10		51,82 chs.
1 1		Then base = 30.00 chs. X tan. 59° 56°.
, etc	an traduct	log. 30.00 chs. = 1.477121 log. tan. 59° 56' = 10.237394 1.714515 = 51.82 chs. +
, 6:16	no.ks a	33.74 chs. = 85.56 chs.
-170 01	no la	Continuing from flag at west side of chasm.
3900	45.00	Bottom of chasm about 800 ft. deep, about 1 ch. wide
bae r	атон 60)	at bottom between the wall, a small stream of water
T and	of with	20 lks. wide, course N. W.
enett III	80.00	Comes on inaccessable cliffs. Impracticable to est-
		ablish the corner.
ows gd .		Land very rough, bare sandstone.
daton bu	auta to	Soil none.
	. A TO WE	vegetation none.
. 0	to navor	
		162nd Mile.
		Continuing on tangent S. 89° 55' E.
		Ascend.
4725	45.56	On top of bluff or bench, bears N. W. and S. E. about
		800 ft. above bottom of chasm, the triangulation
70 4	tuen . m	point.
		North 50 lks. from the tangent.
8/15	AWK	Set a sandstone 30X14X12 ins. 20 ins. in the ground
		for 161st mile cor. Marked UTAH on N. 37 N. L. on
	1	E. ARIZ. on S. and 161.069 M. on the W. faces.
10 17		Raised a mound of stone 5 1/2 ft. base 2 1/2 ft. high
W Bel. E		east of cor. Pits impracticable.
1 12 12		West edge of rock wall bears N. 15° 08' E. about a
y make the state of		mile dist. East edge of high rock wall west of
TA REEL	1 10	chasm bears S. 6° 12' E. abot 5 miles dist.

ALTITUDE	CHAINS	The second secon
		Barometer 4725 ft. Thermometer 70°.
		S. 89° 55' E. continuing on tangent.
		Ascend.
	20.56	Foot of wall about 1000 ft. high nearly perpendicular.
		A salient of the high table lands from the east.
		This line strikes the most westerly point. Impassable.
		Offset south 10.00 chs. Thence S. 89° 55' E. on
		offset line parallel with the tangent.
	55.56	Foot of wall, bears N. W. and S. E. Impassable.
		Offset south 14.00 chs. + 10.00 chs. = 24.00 chs.
	*1000 PM	south of thetangent. Ran S. 89° 55' E. on the off-
Marie Contraction of the Contrac	T. Tion	set line parallel with the tangent. A vertical wall
THE RESERVE TO SERVE THE PERSON NAMED IN	N. Darbita	of sandstone about 1000 ft. high on the north and
		an eroded chasm about 600 ft. deep on the south.
	80.00	Point for 162nd mile cor. comes on sloping sand stone
		Impracticable to establish the cor.
		Difference between measurements of 74.44 chs. by two
		sets of chainmen is 14 lks. Position of middle point
		by 1st set 74.51 chs. By 2nd set 74.37 chs.
		The mean of which is $74.44 + 5.56 = 80.00$ chs.
		Land broken and rocky.
		Soil rocky, 4th rate.
		Vegetation grass and sage.
	est bring	
	RETAINER A	163rd Mile.
		S. 89° 54' E. on offset line 24.00 chs. south of
		the tan gent.
		Ascend.
4750	14.00	North 64 lks. from the offset line.
		Set a sandstone 33X10X6 ins. 22 ins. in the ground
		for witness cor. for 162nd mile cor. Marked W. C.
		WTAH on N. 37 N. L. on E. ARIZ. on S. and 162,175 M.
		on the W. faces. Raised a mound of stone 5 1/2 ft.
		base 2 1/2 ft. high east of cor. Pits impracticable.
		This cor. stands on a sharp rocky spur, sloping S.

	0	
ALTITUDE	CHAINS	24.00 chs. south of the parallel. A sandstone peak
С		bears S. 38° 26' E. about a mile dist.
		Barometer 4750 ft. Thermometer 70°.
T UEA -	11111 -10 ,1	May 24th, 1901.
		S. 89° 54' E. on offset line 24.00 chs. south of the
		tangent and parallel with it.
	- 11.1	Over broken, rugged south slope.
	1 -	Stadia measurement Angle 3° + Rod 11.48 = 1148 ft.
		Constant 99.73 x 1148 = 1144.90 ft. + C = 1.15 =
_		1146.05 ft. = 17.36 chs. + 14.00 = 31.36 chs.
	31.36	Stadia point. Level. Rod 9.095 double = 1819 ft.
		+ C. = 1.15 = 1820.15 ft. = 27.58 chs. + 31.36 chs.=
,	* (*)	58.94 chs.
	58.94	Foot of great wall about 1000 ft. high, bears N. W.
		and S. E. Impassable. Offset south 20.00 chs.
		making 44.00 chs. south of the tangent, thence S.
	. 11	89° 54' E. on offset line parallel with the tangent.
HENT T		Stadia. Level. Rod 7.80 double = 1560 ft. + C = 1.15=
	60.30 80.00	1561.15 ft. = 23.65 chs. + 58.94 chs. = 82.59 chs. Thy gulch course s.w. Ascard. Point for 163rd mile cor. comes on steep end slope.
. W . T	TOTAL VE	Impracticable to establish corner.
190,1		Land rocky and broken.
action -		Soil rocky, 4th rate.
		Vegetation: grass and sage.
		para para dana dana dana dana dana dana dana d
1 m 4 m 2		164th Mile.
		Continuing on offset line S. 89° 53' E.
4800	2,59	North 76 lks. from the offset line.
	. 7 - 1 - 1 - 1	Set a sandstone 30x12x10 ins. 20 ins. in the ground
		for witness corner for 163rd mile cor. Marked W. C.
		UTAH on N. 37 N. L. on E. ARIZ. on S. and 163.032 M.
		on the W. faces. Raised a mound of stone 52 ft.
		base 21 ft. high east of cor. Pits impracticable.
		This cor. stands on rocky spur sloping S. W.

	The second secon	
ALTITUDE	CHAINS	opposite mouth of canon that comes from S. E.
		This cor. stands 44.00 chs. south of the parallel.
176		Barometer 4800 ft. Thermometer 70°.
		Thence S. 89° 53' E. on offset line 44.00 chs. south
and a second		of the tangent and parallel with it.
		Stadia. Angle 15° + Rod 11.775 double = 2355 ft.
		Constant 93.30 x 2355 = 2197.22 + C = 1.11 =
The last		2198.33 ft. = 33.30 chs. + 2.59 chs. = 35.89 chs.
	35.89	Stadia. Angle 31°+ Rod 13.00 = 1300 ft. Constant
		73.32 x 1300 = 955.76 + C = 0.98 = 956.74 ft. =
		14.49 chs. + 35.89 chs. = 50.38 chs.
5800	50.38	Top of bluffs, west edge of mesa bears N. W. and
		S. E. Ran north 44.00 chs. to the tangent line.
		Thence S. 89° 53' E. on the tangent to the parallel.
		Over high mesa, gently rolling sand hills.
		By tape measurement.
		Difference between measurements of 26.94 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 26.95 chs. By 2nd set 26.93 chs.
		The mean of which is 26.94 chs. + $50.38 = 77.32$ chs.
5850	77.32	On the west edge of a very deepo canon, bears N. W.
		and S. E. over 1000 ft. deep. Though it lacks 2.68
		chs. of the 164th mile cor. the point where it comes
		being inaccessable, I place the cor. at this point.
		North 91 1ks. from the tangent.
		Set a sandstone 36x18x7 ins. on bare rock for 164th
		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 163.966 M. on the W. faces. Raised a mound
		of stone 5 ft base 2 ft. high around the cor.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
		of cor. Pits impracticable.
		Barometer 5850 ft. Thermometer 60°.
	and the same	May 25th, 1901.

ALTITUDE

CHAINS

May 26th, 1901, I examine and carefully adjust the transit and compare the tapes with the standard. I set a flag on the line across the canon and turn 90° to the south from the tangent line, for a base which bears S. 0° 07' W. I leave a flag at this cor. and measure the base line 60,00 chs. From the south end of the base take a back sight on the flag at the north end and measure the angle to the flag on the east side of the canon. The mean of four sights with the telescope reversed at each sight is 65° 40' I now leave a flag at the south end of the base and go to, the flag at the east side of the canon. Back sight on flag at north end of base and measure the angle to the flag at the south end. This angle is 24° 201

132,68 chs. Tangent _ - F-Chs.

Then base 60.00 chs. x tan. 65° 40'.

log. 60.00 chs. =1.778151 log. tan. 65° 40' =10.344652

2.122803 = 132.68 chs.

Thence continuing from flag on west side of canon. Descend.

Point for 164th mile cor. Inaccassable. 80.00 Land mountainous, rolling and broken. Soil sandy and rocky, 4th rate. Vegetation - grass, sage and a few scrub cedars.

165th Mile.

S. 39° 53' E. on tangent to the parallel. Bottom of canon, course N. W. about 1000 ft. deep. Ascend.

5750 42,00

	ALTITUDE	CHAINS 80.00	Point for 165th mile cor. falls on N. slope of canon
	1, 12	a smales to	wall. Inaccessable.
	PAR ATTO	they a	Land mountainous, rough and broken.
	inzas o	and as as	Vegetation: grass, sage and scrub cedar.
	MIN . TO	o dunta a	CENTE A MANTETER , IL 120 05 , CT CT
	hate the	on install	166th Mile,
	10000	da math	S, 89° 52' E. on tangent to the parallel.
	enr m	PRAES E	Over broken north slope of canon wall.
	ndrin	30,00	Bottom of another canon about 600 ft. deep near its
	0.59	nz hha	head, course N. W.
	6200	50.00	North 122 lks. from the tangent.
	10.00		Set a sandstone 33xllx7 ins. 22 ins. in the ground
	Chillian in a		for 165th mile cor. Marked UTAH on N. 37 N.L. on E.
	of the s		ARIZ, on S. and 165.625 M. on the W. faces. Raised
	A CONTRACTOR OF THE PARTY OF TH		a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
			Pits impracticable.
			This cor. stands on east wall of canon at the tri- beau MW. and south 10. or clus them SW. angulation point, ruins of cliff dwellers! houses
			about 15 chs. N. W.
			Barometer 6200 ft. Thermometer 64°.
			Thence continuing on the tangent to the parallel
			Over high mesa. Descend.
		75.00	Rockygulch, course S. W. Ascend.
		80.00	End of 166th mile falls on rocky west slope.
			Impracticable to establish the corner.
	, deligner i		Land rolling and broken.
			Soil sandy and rocky, 4th rate.
		1814	Vegetation: grass, sage and a few scrub cedars.
	a second		Annual Principles Control of the Con
and the same of th			167th Mile.
		in the same	S. 89° 51' E. on tangent to the parallel.
			Ascend.
	6225	15.00	North 133 lks. from the tangent.
			Set a sandstone 31x12x10 ins. on bare rock for 166th
	The same		mile cor. Marked UTAH on N. 3L N.L. on E. ARIZ. on S.
			and 166.187 M. on the W. faces. Raised a
	CASTRONIA TO A	- Indiana and a second	

1 .	2	
ALTITUDE	CHAINS	mound of stone 5 ft. base 2 ft. high around the cor.
20	Comment	Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
er test in	erse t	of cor. Pits impracticable.
7	bine tre	Barometer 6225 ft. Thermometer 65°.
per Cost	or to real tree	Continuing on tangent to the parallel.
Land	1911 00	Over rolling high mesa. Ascend.
	55.00	On ridge, bears N. and S. Thence nearly level.
		Difference between measurements of 65.00 chs. by two
		sets of chairmen is 4 lks. Position of middle point
		by 1st set 65.02 chs. By 2nd set 64.98 chs.
		The mean of which is 65.00 chs. + 15.00 chs. =
6400	80.00	North 150 lks. from the tangent.
time.	of a market	Set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 167th mile cor. Marked UTAH on N. 37 N. L. on E.
const	wal ako	ARIZ. on S. and 167 M. on W. faces. Raised a mound
	Salar Sec	of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	arte ad	Pits impracticable.
		Land rolling.
		Soil sandy and rocky, 4th rate.
		Vegetation: grass, sage and a few scrub cedars.
		Barometer 6400 ft. Thermometer 600.
		May 26th, 1901.
		acoth Mile.

168th Mile.

At the 167th mile cor. May 27th, at 3h 6m A. M.

1.m.t. I observe Polaris at eastern elongation in
accordance with instructions in the manual. I mark
the line so found on a plug driven in the ground
north of my station.

At 7h A. M. I lay off the azimuth of Polaris 1° 31.9° to the west and mark the true meridian thus determined on a plug driven in the ground north of my station. The magnetic bearing of the said meridian is N. 15° 08° W. This reduced by the table page 100 of the manual gives the mean magnetic declination 15° 05° E.

		_	
	ALTITUDE	CHAINS .	I now lay off an angle of 90° from the north to the
	Juan n	120 . 22	east for the tangent to the parallel. In all of
			these observations and operations great care is taken
			to have the transit in perfect adjustment and I
			take the mean of at least four sights with the tele-
			scope reversed at each sight. I compare the steel
		invole, 47	tapes with the standard and find them correct.
	OWN TEST	onto on	East on the tangent to the parallel.
	#112 DELLE		Over high mesa. Ascend.
		21.00	Top of ridge, bears N. and S. Thence over gently
		. 0.19	rolling land.
		80,00	The end of the 168th Mile.
	Bans		As there is a very deep canon not very far ahead,
	, Z. mo		I advance this cor. to the canon wall.
		B CHECK	Difference between measurements of 80 chs. by two
		1	sets of chainmen is 12 lks. Position of middle point
			by 1st set 80.06 chs. By 2nd set 79.94 chs.
			The mean of which is 80,00 chs.
		er atoms of	Land high mesa.
		1-1-1-	Soil rocky and sandy, 4th rate.
			Vegetation: grass, sage and scrub cedar.
			Change (Fills) (Fills) (Fills) (Fills) (Fills) (Fills) (Annual States States) (Annual States States) (Annual States States) (Annual States) (A
		30,00	169th Mile.
			S. 89° 59' E. on tangent to the parallel.
			Over mesa.
	6400	7.00	North .76 of lk. from the tangent.
			Set a sandstone 48x12x10 ins. 32 ins. in the ground
			for 168th mile cor. Marked UTAH on N. 37 N. L. on
	6 B 1 B 1 B		E. ARIZ. on S. and 168.087, M. on the W. faces.
		ike complete	Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
	Table State		of cor. Pits impracticable.
-	637	and many	This cor. stands on the west wall of the canon about
-	BULLY	A 10 10 10 10 10 10 10 10 10 10 10 10 10	1500 ft. deep, bears N. and S.
-	9 11	- Ar House	Barometer 6400 ft. Thermometer 60°.
Í			

BOUN	DAKY LINI	E BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	I set a flag on this line in the bottom of the canon
		and turn from it an angle to the south of 90° and
		measure a base line of 60,00 chs. bearing of base
mental and		S. 00 01! W. I leave a flag at the north end and go
		to the south end of the base, back sight on north
		end and measure the angle to the flag in the bottom
		of the canon. The mean of three sights gives this
		angle 46° 49'
		May 27th, 1901.
		May 28th, I reached the flag in the bottom of the
	6	canon and measured the angle from the flag on the
		north end of the base line, on top of the canon
		wall to the flag at the south end of the base. I
	. " . !!	120 470 77 1
and, ii	. man	find this angle to be 45 12 Tangent f
F7 B544	I TO H	6/25
	ar in 00%	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		9837 9834 9834 9834 9834 9834 9834 9834 9834
		Page 1
716	HROTO	Then base 60.00 chs. x tan. 46° 09'.
116 11	N 98	log. 60.00 chs. = 1.778151 log. tan. 46° 49' = 10.027559 log. tan. 46° 49' 1.805710 = 63.93 chs. +
no all	O'T Invite	log. tan. 46° 49' =10.027559 1.805710 = 63.93 chs. +
100	torn to	7.00 chs. = 70.93 chs.
e Crimor	70.93	Thence by tape
		measurement.
4900	78.70	Bottom of cañon 50 lks. wide, small stream of water,
		course N. W. Ascend.
4930	80,00	North 3 lks. from the tangent.
		Set a sandstone 30x12x8 ins. on smooth rock sloping
	196	S. W. for the 169th mile cor. Marked UTAH on N.
		37 . N. L. on E. ARIZ. on S. and 169 M. on W. faces.
		Raised a mound of stone 5 ft. base 2 ft. high around
		the cor. Raised a mound of stone 52 ft. base 22 ft.
		high east of cor. Pits impracticable.
Penne		Land mountainous, very rough and precipitious.
1		Soil rocky 4th rate.

ALTITUDE	CHAINS	Vegetation - grass and sage and a few cedars in the
The Boston ,		crevices of the rocks.
The read		This cor, stands in a canon the west wall of which is
th Taxal I		nearly vertical and 1500 ft. high. East side rises
Mand		in benches that have been denuded of soul and eroded
100 100		in cone shaped buttes.
metty m		Barometer 4930 ft. Thermometer 70°.
		170th Mile.
luce-	ALFONSO	S. 89° 59' E. on tangent to the parallel.
9239	in surs,	Ascend over rounded sandstone buttes.
Ten Roll	35.00	Top of conical sandstone buttes. Descend.
	58.00	Deep chasm, dry in the bottom, course N. W.
	Tarm	Difference between measurements of 80. chs. by two
		sets of chainmen is 20 lks. Position of middle point
		by 1st set 80.10 chs. By 2nd set 79.90 chs.
		The mean of which is
5200	80.00	North 7 lks. from the tangent.
		Marked a smooth rock in place with a cross at the
		point for the 170th mile cor. thus: 170 M. + 37 N.L. ARIZ.
Marin A	his 24.	Utah on N. 37 N. L. on E. ARIX. on S. and 170 M. on
		the W. of the cross. Raised a mound of stone $5\frac{1}{2}$ ft.
my po	to de l'off m	base 21 ft. high east of cross. Pits impracticable.
		Land rough and broken.
. Wallet		Soil none except in crevices.
		Vegetation - grass, sage and cedar in crevices.
		Barometer 5200 ft. Thermometer 70°.
Marketon .		May 28th, 1901.
		AND WEST OWN JOSE CHIEF WEST STORE CHIEF WEST STORE CHIEF STORE CHIEF
worker .	'ma' , 11	171st Mile.
Depart is		S. 89° 58' E. on tangent to the parallel.
M Haci		Ascend over bare sandstone.
	30.00	South side of rounded butte.
	50.00	Top of oblong butte bears N. E.and S. W. Descend.

ALTITUDE	CHAINS	Difference between measurements of 80 chs. by two
		sets of chainmentis 14 lks. Position of middle
		point by 1st set 80.07 chs. By 2nd set 79.93 chs.
F = 5 = 1		The mean of which is
5375	80,00	North 12 lks. from the tangent.
18%	* me	Set a sandstone 40x20x6 ins. on smooth sandstone
	M. 00 , 64	sloping E. for 171st mile cor. Marked UTAH on N.
47,58	. wie dr.	37 N. L. on E. ARIZ. on S. and 171 M. on the W. faces.
Market 1	A A P	Raised a mound of stone 5 ft. base 2 ft. hagh around
e la co	a mon qu	the cor. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
m I to I have	maida) m	high east of cor. Pits impracticable.
		Land mountainous.
		Soil very scanty, mostly bare rock.
4 - 164	est at l	Vegetation - grass, sage and scrub cedar in the
3. 90 .1	. H. COKAR	rock crevices.
6, 900	Luisti e . 1	Barometer 5375 ft. Thermometer 72°.
. 405. 30	seen di	part part and an area are an area are an area are are an area.
**	The second	172nd Mile.
Arriva.	112.00	S. 89° 57' E. on tangent to the parallel.
1000		Over rough broken rocky land.
		From a point on the tangent 3.60 chs. west of the
a Et Cadas	as ptd	171st mile cor. take stadia measurement. Angle 11°+
1	- 02100	Rod 7.45 double = 1487 ft. Constant 96.36 x 1487 =
1 480		1432.87 + C = 1.13 = 1434.00 ft. = 21.73 chs
		3.60 chs. = 18.13 chs.
	2.00	Bottom of rock canon, dry, 100 ft. deep, course N. W.
		Ascend.
	18.13	On N. side of round sandstone butte about 300 ft.
		high. Ascend.
		Stadia. Angle 11°+ Rod 1.9% = 19% ft. Constant
		96.36 x 194 = 186.93 + C = 1.13 = 188.06 ft. =
		2.85 chs. + 18.13 chs. = 20.98 chs.
	20.98	Stadia level Rod 11.27 double = 2254 ft. + C =
*		1.15 = 2255.15 ft. = 34.17 chs. + 20.98 = 55.15 chs.
		Descend.
	30.00	Bottom of canon about 250 ft. deep, course N. W.

 ALTITUDE	CHAINS	
iowa z	MEID O	Ascend. Leave bare sandstone, bears N. W. and S. E.
- Sarah	55.15	On W. slope of hill. Thence by tape measurement.
antio El	64.00	On top of gravel bluff, bears N. W. and S. E.
		Ascend gradually.
		Difference between measurement of 20.85 chs. by two
91.0	ethere n	sets of chainmen is 2 lks. Position of middle point
	in Lymn	by 1st set is 20.86 chs. By 2nd set 20.84 chs.
	200	The mean of which is 20.85 chs. + 55.15 chs.=76.00 chs.
6000	76,00	On top of steep bluff, bears N. W. and S. E. Point
13. 18. 1		for 172nd mile cor. will come on steep north slope
		among large boulders. I therefore established the
		cor, at this point.
		North 19 lks. from the tangent.
		Set a sandstone 33x16x10 ins. 22 ins. in the ground
		for 172nd mile cor. Marked UTAH on N. 3L N. L. on E.
		ARIZ. on S. and 171.95 M. on W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
-	1000	Pits impracticable.
		Barometer 6000 ft. Thermometer 720.
		Continuing on tangent.
		Descend steep N. E. slope.
	80.00	Point for 172nd mile cor. Impracticable to establish
		the cor. about 150 ft. below top of bluffs.
		Land rough and broken.
		Soil rocky, 4th rate.
		Vegetation- grass and sage.
		173rd Mile.
		S. 89° 57' E. on tangent to the parallel.
		Ascend along N. slope.
	36.00	Top of same bluff, bears N. E. and S. W. Thence
		across mesa.
6200	60.00	Top of same bluff bears N. E. and S. W. Descend.
6100	61.50	Bottom of rocky cañon, dry, 100 ft. deep, course S. W.
		Ascend.
		Difference between measurements of 80. chs. by two
		The state of the s

DOCTI		DATE AND DESIGN OF THE PROPERTY OF THE PROPERT
ALTITUDE	CHAINS	sets of chainmen is 14 lks. Position of middle point
	fuch w	by 1st set 80.07chs By 2nd set 79.93 chs.
	Almen and	The mean of which is
6450	80.00	North 27 lks. from the tangent.
an ahi	5 (i180)	Set a sandstone 48x30x10 ins. 32 ins. in the ground
		for 173rd mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 173 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	. 71.10	Pits impracticable.
		This corner on rocky spur, slope S. W.
		Land rough and broken.
		Soil rocky, 4th rate.
	. Coth	Vegetation - grass and sage.
		Barometer 6450 ft. Thermometer 70°. May 29th 1901.
Althou I	origer at	Orlay Av
o wtork	SCHOOL ST	174th Mile.
		S. 89° 56' E. on tangent to the parallel.
30 8	uron , aris	Descend along south slope.
	17.43	On west wall of canon bears N. E. and S. W. Descend.
61.00	27.00	Bottom of main canon that comes from west side of Nava-
niso i	anoch 1	jo Mountain. Here dry, course S. W. about 350 ft.
		deep. Ascend. Enter cedar brush, bears N. E. and
cw t	of a material	S. W.
log ast	Azet Tear	Difference between measurements of 80 chs. by two
	- nuls TR.	sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By second set 79.96 chs.
		The mean of which is
7100	80.00	North 37 lks. from the tangent. Set a sandstone 36x30x7 ins. 24 ins. in the ground for
- 11		
		174th mile cor. Marked UTAH on N. 37 N. L. on E.
PROVE .S		ARIZ. on S. and 174 M. on W. faces. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.

	MITTER TOP	1.111.12.21.12.11	
	ALTITUDE	CHAINS	A cross on a sandstone, which is 12x12 ft. square and
			15 ft. high bears N. 37° 05' W. 34 lks. dist. marked
			UTAH above the cross and B.O. below the cross and
			174 M. west of the cross, thus: 174 M. +
	heriosa	and int	Sandstone cones and water pockets about 3/4 of a mile
	no il .	4,175.2	S. E.
	g l'etal	all _tit	Land mountainous.
	enter to	hube in	Soil rocky and sandy, 4th rate.
	85 M	1990 (7)27	Vegetation - grass, sage and scrub cedar.
			Barometer 7100. Thermometer 65°
			175th Mile.
			S. 89° 55' E. on tangent to the parallel.
			Ascend along south slope of mountain.
		10.00	West edge of rocky canon, course S. W. offset south
			50 chsidto avoid impassable cliffs on south slope of
		- 505	Navajo Mountain.
			Thence689° 55' E. on offset line 50 chs. south of
	Precional	-10	tangent and parallel with it.
	W 30.4	An June	Ascend along south slope.
	477.0	54.64	Trail bears N. W. and S. E. to spring about 1/4 of a
	Man.	La Windows	mile N. W.
	4,717		Difference between measurements of 80 chs. by two
	001	of made	sets of chainmen is 6 lks. Position of middle point
	Log ali	bite to	by 1st set 80:03 chs. By 2nd set 79.97 chs.
			The mean of which is
	6850	80.00	North 49 1ks. from the affact. Line,
			Set a sandstone 30x/2x10 ins. 20 ins. in the ground
	Linette :		for witness cor. for 175th mile cor. Marked W. C.
	1		UTAH on N. 37 N. L. on E. ARIZ. on S. and 175 M. on
	North No.	part atte	the W. faces. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
		the state of	ft. high east of cor. Pits impracticable.
-			This cor. is 50 chs. south of the parallel and stands
			on the south slope of Navajo mountain about 1000 ft.
-			lower than its true place on the parallel.
1	We have a little of the		

ALTITUDE	CHAINS	Land mountainous.
		Soil rocky and sandy, 4th rate.
AND	90 7 1970	Vegetation - grass, sage, scrub cedar and pinon.
		Good timber on the mountain about a mile distant north.
		Barometer 6850 ft. Thermometer 65°.
	. 0.510	May 30th, 1901.
E/11 E/		
	. 100 30	I examine the adjustments of the transit in all its
_		parts and find it in adjustment.
	15,449 0	Compare the steel tapes with the standard and find them
		of correct length.
		176th Mile.
		S. 89° 55' E. on offset line 50 chs. south of the
		tangent and parallel with it.
	50.00	Foot of steep slope bears N. W. and S. E. Ascend.
	63.00	Top of spur, slope S. Descend.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 12 lks. Position of middle point
		by 1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
6550	80.00	and the state of t
		Set a sandstone 30x16x3 ins. 20 ins. in the ground
	vera der	for witness cor. for 176th mile cor. marked W. C. UTAH
7	LATU VI	on N. 37 N. L. on E. ARIZ. on S. and 176 M on the W.
92.5	no M	faces. Raised a mound of stone $5\frac{1}{2}$ ft. base $3\frac{1}{2}$ ft.
Luce	ASSET A	high east of cor. Pits impracticable.
- oded	in in	Land mountainous.
		Soil rocky, 4th rate.
11/2-10	. 11 . 13 . 11 .	Vegetation - grass, sage and scattering scrub cedar
	TO MIN	and pinon.
		This cor, stands 50 chs. south of the parallel.
		Barometer 6550 ft. Thermometer 66°,
	- , w/K	
	· .wil	DOLONGO GET OSSO I C. THOUMAND

ALTITUDE	Chains	177th Mile.
		S. 89° 54' E. on offset line 50 chs. south of the
		tangent and parallel with it.
ASSOCIATION OF	apolitic es	Along south slope of mountain.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
and house	80.00	Falls on rocky slope. Impracticable to establish the
		corner.
	9	Land mountainous.
WIL	d the star-	Soil rocky, 4th rate.
		Vegetation - grass, sage, scattering rscrub cedar and
William Pres	e on A o	pinon,
		Core Dial from taste date date care care care care care care.
1	ted , her	178th Mile.
inici e	Tabin to	S. 89° 53' E. on offset line 50 chs. south of the
	. mile in	tangent and parallel with it.
7100	16.25	and the paratter 50.79 cns. which from
	100	50.79 chs. = 20.00 chs. south of the parallel at this
Petro	es nor :	point. 50.00 chs. + offset 0.79 chs. = 50.79 chs
TABLE .	or curry	30,79 chs. = 20.00 chs.
, W. out.	Toronto St	Set a sandstone 32x14x8 ins. on bare rock for witness
	R. Sant .	corner for 177th mile cor. Marked W. C. UTAH on N.
		37 N. L. on E. ARIZ. on S. and 177.203 M. on W. faces.
		Raised a mound of stone 5 ft base 2 ft. high around
		the cor. and raised a mound of stone 5 ft. base
ota nor	Sarge in 5	$2\frac{1}{2}$ ft. high east of cor. Pits impracticable.
		This cor. stands on rocky spur, sloping S. E. 20.00
	Est of Property	chs. south of the boundary line which runs over a
		precipice of rock.
		Barometer 7100 ft. Thermometer 66°.
		Thence \$2 89° 53' E. on offset line 20 chs. south of
		the parallel and parallel with the tangent.

ALTITUDE	Chains	Descend.
	21.25	Foot of rock, bears N. E. and S. W.
•	33.25	Dry gulch, course S. W.
PRZ.	37.25	Dry gulch, course S. W.
-	63.30	Dry gulch, course S. W.
. 111		Difference between measurements of 63.75 chs. by two
and the		sets of chainmen is 4 lks. Position of middle point
to / fam.		by 1st set 63.77 chs. By 2nd set 63.73 chs.
3777078		The mean of which is 63.75 chs. + 16.25 chs. =
7000	80.00	North 20.13 . to the 37th parallel. The boundary
		line between UTAH and ARIZONA 20.00 chs. + offset 13
		lks. = 20.13 chs.
		Set a sandstone 30x15x10 ins. 20 ins. in the ground
- 100	mile the	for 178th mile cor. marked UTAH on N. 37 N. L. on E.
	rec goodle	ARIZ. on S. and 178 M. on the W. faces. Raised a
	Table 18	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
bun.	1 . H FO	Pits impracticable.
		A pinon tree 6 ins. diam. bears N. 21° E. 42 lks.
. 007	ed . w	dist. marked UTAH 178 M. B.T.
inter of	ober 30	A pinon tree 6 ins. diam. bears S. 35° E. 24 lks.
	. note es	dist. marked ARIZ. 178 M. B.T.
		A cedar tree 5 ins. diam bears S. 19° 30'W. 19 lks.
		dist. marked ARIZ. 178 M. B.T.
bings	To least	A cedar tree 5 ins. diam. bears N. 61° 20' W. 66
	76 46	lks. dist. marked UTAH 178 M. B.T.
	- Hattahi	Land mountainous.
. 200	with the	Soil rocky and sandy, 4 rate.
- 17 mu	s , m &	Vegetation - grass, sage, cedar and pinon timber.
		Barometer 7000 ft. Thermometer 68°.
white the	100	May 31st, 1901.
		Militia States S
a stella	, p. 165	June 1st, 1901.

At the 178th mile cor. 2h 46m A.M. 1.m.t., I observe Polaris at eastern elongation in accordance with instructions in the manual, and mark the line so determined on a plug driven in the ground north of my station.

ALTITUDE	Chains	7h A.M. I lay off the azimuth of Polaris 1° 31.91 to
		the west and mark the true meridian thus found on a
		plug driven in the ground north of my station.
		The magnetic bearing of the said meridian is N. 15°
		13' W. This reduced by the table page 100 of the
give to	, age a	manual gives the mean magnetic declination 15° 10' E.
infor a	187754 30	I now lay off an angle of 90° from this meridian from
	, ndo s	the north to the east for the tangent to the parallel.
	- 1000	In all these observations the mean of at, least four
Kanana a		sights was taken with the telescope reversed at each
S.L. 30	730	sight.
		179th Mile.
high	PERONE D	Easton the tangent to the parallel.
E.R. no	17.00	Descend over rocky land and through scrub timber.
A file		Bottom of rocky ravine about \$000 ft. deep. Dry,
. 400	51.00	Top of blues and a second.
		Top of bluff, east side of ravine, course N. W. and S. E. Descend gradually.
	ME CA .N	TOWNS AND THE PROPERTY AND ADDRESS OF THE PARTY OF THE PA
		Difference between measurements of 80 chs. by two
	II. M.	sets of chainmen is 12 lks. Position of middle point by 1st set 30.06 chs. By 2nd set 79.94 chs.
	- 10 m	The mean of which is
6750	80.00	North .76 of 1k. from the tangent.
	100	Set a sandstone 30x16x6 ins. 20 ins, in the ground
		for the 179th mile cor. Marked UTAH on N. 37 N. L.
		on E. ARIZ. on S. and 179 M. on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft. dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
		ft. high east of cor.
	White.	A cedar tree 5 ins. diam. bears N. 39° 09' E. 63 1ks.
	5,41	dost. marked UTAH 179 M. B.T.
		A cedar tree 4 ins. diam. bears S. 43° 40' E. 57 lks.
		dist. marked ARIZ. 179 M. B.T.
		A cedar tree 4 ins. diam. bears S. 55° 34' W. 56 lks.
		dist. marked ARIZ. 179 M. B.T.
		A cedar tree 4 ins. diam. bears N. 11° 35' W. 29 lks.

A	LTITUDE	Chains	dist. marked UTAH 179 M. B.T.
		arin s	Land rolling and broken.
	. =		Soil rocky, 4th rate.
			Timber - scrub cedar and pinon.
1	Lague	e tirta ar	Barometer 6750 ft. Thermometer 60°.
	110	. 7 77	S not start borness of the Cartes and Cartes
ŀ	to a series	nole me	180th Mile.
	natur	. tuth	S. 89° 59' E. on tangent to the parallel.
	, word 1	o tana	Over rolling land, through timber.
	C WI	26.00	Dry gulch, course S. E.
		65.00	Indian trail, bears N. E. and S. W.
	(r //2)	7 108 1	Difference between measurements of 80 chs. by two
			sets of chainmen is 2 lks. Position of middle point
		and the	by 1st set 80.01 chs. By 2nd set 79.99 chs.
			The mean of which is
1	6725	80.00	North 3 lks. from the tangent.
A			Set a mastone 30xllx10 ins. 20 ins. in the ground
			for 180th mile cor. marked UTAH on N. 37 N. L. on E.
			ARIZ, on S. and 180 M. on the W. faces. Dug plus
			36x36x18 ins. N. S. El and W. of the cor. and o
C ₁ ,p		Leca pa	dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
		1100 70	high east of cor.
			A cedar tree 12 ins. diam. bears N 76° 50' E. 111 1ks.
		The state of	dist marked HTAH 180 M. B.T.
		1200	A pinon tree 13 ins. diam. bears S 69° 46' W. 210 lks.
			dist. marked ARIZ. 180 M. B.T.
			No other trees within limits.
1		a accid	Land rolling.
		1.00	Soil sandy, 3rd rate.
		, 1970 BB	Timber - cedar and pinon.
		A TANK	Barometer 6725 ft. Thermometer 70°.
		Harry Com	181st Mile.
			S. 89° 59' E. on tangent to the parallel.
			Descend over rolling land.
		133	Difference between measurements of 80 chs. by two

of middle point 3 chs. The ground for 37 N. L. on E. ug pits 36x36x18 dist. Raised: east of cor. 42' E. 19 lks.
n the ground for 37 N. L. on E. ug pits 36x36x18 dist. Raised: east of cor.
37 N. L. on E. ug pits 36x36x18 dist. Raised: east of cor. 42' E. 19 1ks.
37 N. L. on E. ug pits 36x36x18 dist. Raised: east of cor. 42' E. 19 1ks.
37 N. L. on E. ug pits 36x36x18 dist. Raised: east of cor. 42' E. 19 1ks.
ug pits 36x36x18 dist. Raised: east of cor. 42' E. 19 lks.
dist. Raised: east of cor. 42' E. 19 lks.
east of cor.
° 42' E. 19 lks.
20' E. 65 lks.
20' E. 65 lks.
ing trees.
00,08 4.75
mpared the steel
of correct
el.
N. W. Stadia
uble = 2453 ft.
C = 1.14 =
60 chs.
trail bears
. Thence along

ALTITUDE 6450	74.33	To edge of wall, bears N. E. and S. W. Descend.
2000	um . a est	Stadia measurement. Angle 22° - Rod 7.74 = 774 ft.
- st Le	onote 5	$\times 774$ Constant 85.97 = 665.50 + C = 1.06 = 666.56 ft. =
. o (da	o't Jourge	10,10 chs. + 74.33 chs. = 84.43 chs.
. Jukh	and or	Measured back west toward cliff. 4.43 chs. leaving
6165	80.00	North 12 lks. from the tangent.
		Set a sandstone 32x14x10 ins. 21 ins. in the ground
		for 182nd mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 182 M. on W. faces. Raised a mound
	toning Ive	of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands at foot of wall, bears N. E. and S.W.
		about 300 ft. high.
	111.00	Land mountainous, rough and broken.
profile	0.000000	Soil rocky, 4th rate.
	07,10	Vegetation - grass and sage, scrub cedar and pinon.
. 0 //	10 .11 .11	Barometer 6165 ft. Thermometer 62°.
		- to the state of
		183rd Mile.
Ow d	10 . 101	s. 890 571 h. on tangent to the parallel.
6075	11.00	Bottom of canon, dry bed of stream 20 lks. wide,
	. HIST 16	course N. E. Ascend.
	28.00	Stadia measurement. Angle 7° + Rod 11.095 double =
		2219 Constant 93.51 x 2219 = 2185.73 + C = 1.14 =
houns	th militage	2186.58 ft. = 33.13 chs. + 28.00 chs. = 61.13 chs.
• 11/4	61.13	Top of south wall of canon, bears N. E. and S. W.
10 Lanon	a bonda	Thence by tape measurement.
6400	65.00	Top of rock cliffs, bears N. E. and S. W. Descend.
		Difference between measurements of 46.87 chs. by two
	05	sets of chainmen is 6 lks. Position of middle point
		by 1st set 46.90 chs. By 2nd set 46.84 chs.
1 1 1 1 1 1		The mean of which is 46.87 chs. + 33.13 chs. =
6160	80.00	North 19 1ks. from the tangent.
		Marked a sandstone in place, $6\frac{1}{2}x3\frac{1}{2}x2$ ft.

ALTITUDE	Chains	above ground with a cross on top for 183rd mile cor.
. 110	uan inpit	Marked UTAH on N. 37 N.L. on E. ARIZ. on S. and 183
	The law at	M. on the W. faces. Raised a mound of stone $5\frac{1}{2}$ ft.
and the same	in ac. a	base 2½ ft. high east of cor. Pits impracticable.
	2141	A cedar tree 10 ins. diam. bears south 19 lks. dist.
- 178h	aut , mi	marked ARIZ 183 M. B.T.
The Pari	111111	No other trees within limits.
, libeline	a withit it	Land mountainous rough and broken.
.H.no	, II. 9%	Soil rocky, 4th rate.
MALION A	bos kell	Vegetation - grass sage, scrub cedar and pinon.
	*300 B	Barometer 6160 ft. Thermometer 71°.
		ENGLOSIO DE OLO ES ESTOCIO DO ESTOCIO DE LE COMPOSITION DE LA COMPOSITION DEL COMPOSITION DE LA COMPOS
. W. Dr brin		184th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Ascend along N. E. slope over broken rocks.
	16.00	The state of the s
6460	eg-han-a	
		Enter timber, same bearings. Thence over high mesa
6500	53.50	The state of the s
		Difference between measurements of 80 chs. by two
		sets of chainmen is 20 lks. Position of middle point
*	DAZW . Wo.	by 1st set 80.10 chs. By 2nd set 79.90 chs.
		The mean of which is
6500	80.00	North 27 1ks. from the tangent.
W 57.		Set a sandstone 30x13x7 ins. 20 ins. in the ground
+19/30	The state of	for 184th mile cor. marked UTAH on N. 37 N. L. on E.
Lines.	A Den	ARIZ. on S. 184 M. on the W. faces. Raised a mound of
		stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
w 5/755	espite . T	Pits impracticable.
and the same	* HILL B. H.	A cedar tree 12 ins. diam. bears N. 46° 30' E. 26 lks.
		dist. marked UTAH 184 M. B.T.
W W		A cedar tree 12 ins. diam. bears S. 28° 10' E. 68 lks.
	***	dist. marked ARIZ. 184 M. B.T.

ALTITUDE	Chains	A cedar tree 11 ins. diam. bears S. 59° W. 70 lks.
		dist. marked ARIZ. 184 M. B.T.
	. 7.01	A cedar tree 10 ins. diam, bears N. 20° 20' W. 51 lks.
		dist. marked UTAH 184 M. B.T.
		Land mountainous.
		Soil rocky, 4th rate.
	. 60	Timber - scrub cedar and pinon.
		Barometer 6500 ft. Thermometer 68°.
- 12	NEXT BE	June 2nd, 1901.
Du, Lini	- 10,1	and with a three differences and a second se
	. arto	185th Mile.
	og rigeri	S. 89° 56' E. on tangent to the parallel.
	77.45	Over rock mesa, through timber.
	15.00	Rocky gulch, course N. E.
6500	54.00	Top of west wall of Pah Ute canon, bears N. and S. E.
	61.39	Stadia measurement. from point of cliff. Angle 35° -
		Rod 9.395 double = 1879 ft. Constant 67.10 x 1879=
		1260.80 ft. + C = 1261.74 ft. = 19.12 chs. + 61.39 chs.
17		= 80.51 chs.
	. retu	Measured back west 51 lks. leaving 80.00 chs.
		Difference between measurements of 61.39 chs. by two
		sets of chainmen is 4 lks. Position of middle point
	- 5.03	by 1st set 61.41 chs. By 2nd set 61.37 chs.
		The mean of which is 61.39 chs. + 19.12 chs. = 80.51
FI SWILE	TOT MOST	
	80.00	
	STATE OF S	ARTZ ON
		S. and 185 M. on the W, faces. Raised a mound of
		stone 5 ft base 2 ft. high around the cor. Raised
Hiller	H 138 W	al at here of st high cost of com
		Pits impracticable.
i i i	S NOW A	This cor. stands at foot of steep slope from west wall
		of canon.

	ALTITUDE	CHAINS	Land mountainous,
			Soil rocky, 4th rate.
	note the	W - 600 M	Vegetation - grass, sage and scrub cedar.
			Barometer 5575 ft. Thermometer 75°.
			186th Mile.
			S. 89° 55' E. on tangent to the parallel.
			Descend.
		10.00	Stadia. Angle 25°+ Rod 11.65 double = 2330 ft.
			Constant 82.14 x 2330 = 1913.86 + C = 1.04 = 1914.90
			ft. = 29.01 chs. + 10.00 chs. = 39.01 chs.
	5500	18,25	Bottom of Pah Ute canon, dry bed of stream 20 lks.
			wide, course N. Ascend.
	6500	39.01	Top of cliffs, east wall of canon bears N. E. and
	.4 .7 5	in a man	S. W. Thence across rough mesa.
	- 485 3	30.00	In head of rocky canon, course S. W. Impracticable
		mor. vo	to establish the cor.
	m 12.1	.000	Land mountainous, rough and broken.
			Soil rocky, 4th rate.
		. 1110	Vegetation - grass, sage, cedar and pinon.
	and the	. industries	10 30 Street Contraction of Texas and the Contraction of the Contracti
	raion o	Liber ye	187th Mile.
		. 1019	S. 89° 55' E. on tangent to the parallel.
	6450	1.38	North 49 lks from the tangent.
			Set a sandstone 31x20x6 ins. on bare rock for 186th
			mile cor. marked UTAH on N. 37 N. L. on E. ARIZ. on
	- 1 - Horali	Common The	S. and 186.017 M. on W. faces. Raised a mound of
	Tog .4	ON . C 4	stone 5 ft. base 2 ft. high around the cor. and raised
	4. 70	chair e	a mound of stone 5 ft. base 2 ft. high east of cor.
		4 . 700	Pits impracticable.
	400-00	Many A	A pinon tree 10 ins. diam. bears N. 51° 20' E. 178
			lks. dist. marked UTAH 186.017 M. B. T.
-			A pinon tree 8 ins. diam. bears S. 20° 05' E. 121 lks.
			dist. marked ARIX. 186.017 M. B.T.

ALTITUDE	CHAINS	No other trees within limits, suitable for bearing
	. 0	trees.
		This cor. stands on east wall of rocky canon near the
Paroena(head, bears N. W. and S. W.
a otto		Barometer 6450 ft. Thermometer 75°.
00/1 =		June 3rd, 1901.
Jane 6	4,04440	I examine and carefully adjust the transit as to level
	. direct	collimation and stadia wires. Compare the steel
	Div , will	tapes with the standard and find them of correct
770	r etal s	length.
		Ascend over high mesa through scrub timber.
-111	16.40	Top of spur slope S. Descend.
	26.50	Head of canon, course S. W. Ascend.
On Filte	78.50	Top of ridge, bears N. W. and S. E.
Jakon e	thicker to	Difference between measurements of 80 chs. by two
	.man	sets of chainmen is 8 lks. Position of middle point
em(n-0	0.08 = 9	by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
6750	80.00	North 62 1ks. from the tangent.
	ofter have	Set a sandstone 36x19x6 ins. 24 ins. in the ground for
		187th mile cor. marked UTAH on N. 37 N. L. on E. ARIZ.
	7	on S. and 187 M. on the W. faces. Dug pits 36x36x18
		ins. N. S. E. and W. of cor., 6 ft. dist. Raised a
40		mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		A pinon tree 8 ins. diam. bears N. 11° 20' E. 151 lks.
on bains	15 000	dist. marked UTAH 187 M. B.T.
F ,# //	N. J. O	A piñon tree 8 ins. dia. bears S 31° W. 146 lks. dist.
- n t	entail :	marked ARIZ. 187 M. B.T.
5,500	no tras	No other trees within limits suitable for bearing trees
		Land mountainous.
. 0. / . /	. 100	Soil rocky, 4th rate.
		Timber - pinon and cedar.
	11 11 12	Barometer 6750 ft. Thermometer 61°.
	*	(Bod) Street (Bod) (Alice Street Street Street Street Street Street Street Street

	ALTITUDE	CHAINS	188th Mile.	
			S. 89° 54' E. on tangent to the parallel.	
	art, wae		Over rough mesa, through timber.	
	6750	19.41	On west wall of canon, bears N. W. and S. E. Descend,	
			Stadia measurement. Angle 29° - Rod 12.15 double =	
			2430 ft, Constant 76,50 x 2430 = 1858,95 + C. = 1.00	
	to love	on dies	= 1859,95 ft. = 28,18 chs. + 19.41 chs. = 47,59 chs.	
	Inc.	47.59	Stadia point. Thence by tape measurement.	
	55 9 0	75.00	Bottom of canon, dry bed of stream 20 lks. wide, course	•
			N. W. There is a spring in the head of this canon	
	100	. Toobe	about $1\frac{1}{2}$ miles S. E. Ascend.	
	N. MODGE	80.00	Falls on steep west slope among sliding rocks. Im-	
			practicable to establish corner.	
	92.50		Difference between measurements of 51.82 chs by two	
	DW.	X1 . 100	sets of chainmen is 6 lks. Position of middle point	
	THEORE	To the base of	by 1st set 51.85 chs. By 2nd set 51.79 chs.	
		. Gallo 1	The mean of which is 51.82 chs. + 28.18 = 80.00 chs.	
			Land mountainous.	
			Soil rocky, 4th rate.	
	D. Dette	ta bite a	Vegetation - grass, sage, scrub cedar and pinon.	
	100		CONG. LECTOR CLANS MACHINES AND A CONG.	
			189th Mile.	
	1		S. 89°,53' E. on tangent to the parallel.	
			Ascend.	
	6025	16,60	North 79 1ks. from the tangent.	
			Set a sandstone 46x16x9 ins. 30 ins. in the ground for	
	tutt ye		189th mile cor. marked UTAH on N. 37 N. L. on E.	
			ARIZ. on S. and 188,207 M. on W. faces. Raised a	
			mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.	
			Pits impracticable.	
			A piñon tree 6 ins. diam. bears N. 51° 40' E. 90 lks.	
			dist. marked UTAH 188.207 M. B.T.	
			A pinon tree 7 ins. diam. bears S. 30° E. 9 lks. dist.	
			marked ARIZ. 188.207 M. B.T.	
			No other trees within limits.	
			Barometer 6025 ft. Thermometer 68°	
AND DESCRIPTION OF THE PARTY OF		-		

ALTITUDE	Chains	June 4th, 1901.
		S. 89° 53' E. on tangent to the parallel.
a 1 a 11 1		Ascend over rocks. Stadia measurement. Angle 23°+
		Rod 10.76 double = 2152 ft. Constant 84.73 x 2152 =
		1823.39 + C = 1.05 = 1824.44 ft. = 27.64 chs. + 16.60
CW.	and and	chs. = 44.24 chs.
6800	44.27	Oh east wall of canon, bears N. W. and S. E. Thence
	. 0150	over high mesa and through timber by tape measurement.
		Difference between measurements of 35.76 chs. by two
		sets of chainmen is 4 lks. Position of middle point
motore (*)		by 1st set 35.78 chs. By 2nd set 35.74 chs.
* "no - 0.		The mean of which is 35.76 chs. + 27.64 chs. + 16.60
arco! te.		chs. =
6550	80.00	North 92 1ks. from the tangent.
. 70		Set a sandstone 33x16x6 ins. 22 ins. in the ground for
(S) (F)		the 189th mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 189 M. on W. faces. Raised a mound of
5 L . R 691	-1 -1	stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
THE OPE	.00	A pinon tree 8 ins. diam. bears N. 29° 20' E. 58 lks.
		dist. marked UTAH 189M .B.T.
HAN AR		A piñon tree 12 ins. diam. bears S. 71° E. 114 1ks.
		dist. marked ARIZ. 189 M. B.T.
		No other trees within limits suitable for bearing trees
	.//0/	This cor. stands 1 ch. north of the head of the canon
		course S. W.
		Land mountainous.
		Soil rocky, 4th rate.
		Timber - scrub cedar and pinon.
s - /s //s		Barometer 6550 ft. Thermometer 60°.
-715-14		gain gods and man other mine date field along the date field along the
		190th Mile.
100		S. 89° 53' E. on tangent to the parallel.
		Ascend over rolling sand hills through timber.

ALTITUDE	CHAINS 48.00	Leave timber, bears N. and S.
	53.10	Wagon trail from Tuba City to Bluff City, bears N. E.
A. C. C.		and S. W. Ascend.
THE REAL PROPERTY.	56.00	Enter timber, bears N. and S.
ga, hr		Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
100000000000000000000000000000000000000		by 1st set 80.03 chs. By 2nd set 79.97 chs.
	700 4000	The mean of which is
66 50	80.00	North 110 1ks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
00.00		at the bottom 3 ft. in the ground for 190th mile cor.
The state of		A brass cap on the top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 190 M. stamped in the center
Ton here	White Collection	Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6 ft
. Yran		dist. Raised a mound of earth 5 ft. base 2 ft. high
		around the post.
		A piñon tree 10 ins. diam. bears N. 42° 40' E. 215 lks
		dist. marked UTAH 190 M. B.T.
LIGHT B	W 1.51	A piñon tree 10 ins. diam. bears 9. 29° 40' W. 240 lks
		dist. marked ARIZ. 190 M. B.T.
. Auf T	ATT . E	No other trees within limits suitable for bearing trees
No.		Land mountainous.
Market & Sale	transit in	Soil sandy, 4th rate.
		Vegetation - grass, sage, cedar and pinon.
		Barometer 6650 ft. Thermometer 60°.
		June 5, 1901.
		dirth anna faint sinn ann ann can ann ann ann ann ann ann a
		191st Mile.
		At the 190th mile cor. June 6th, 1901, at 2h 26m A.M.
		1.m.t. I observe Polaris at eastern elongation in ac-
		cordance with instructions in the manual and mark the
		line so determined on a plug driven in the ground north
		of my station.
		At 7h 14m, A.M. I lay off the azimuth of Polaris 10
		32' to the west and mark the true meridian so

		The state of the s
ALTITUDE	CHAINS	determined on a plug driven in the ground north of
		my station. The magnetic bearing of this meridian is
100	1000	N. 15° 03' W. This reduced by the table page 100 of
		the manual gives the mean magnetic declination 15° 00'
	19000	E. I lay off 90° from this meridian from the north
	troncin.	to the east for the tangent to the parallel.
		In all these operations the mean of four sights is
		taken with the instrument reversed at each sight.
parties of	G UKA	
Luner	Can For the	East on tangent to the parallel.
	197, (2)	Ascend over rolling sand hills, through timber.
	19.00	Top of ridge, bears N. and S. Descend.
	33.50	Dry gulch, course S. E. Ascend.
Levin El	Transit Manager	Difference between measurements of 80 chs. by two
	A JE RO	sets of chainmen is 4 lks. Position of middle point
1011		by 1st set 80.02 ths. By 2nd set 79.98 chs.
		The mean of which is
6790	80.00	North .76 of lk. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
,	anne ne	at the bottom, 3 ft. in the ground for 191st mile cor.
2000	arm-d	A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 191 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		and 6 ft. dist. Raised a mound of earth 5 ft base
		2 ft. high around the post.
		A pinon tree 10 ins. diam. bears S. 66° 40' E. 219
		lks. dist. marked ARIZ. 191 M. B.T.
		No other trees within limits suitable for bearing trees
1.000/10		Land rolling.
. 2000		Soil sandy and rocky, 4th rate.
		Wegetation - grass, sage, cedar and pinon timber.
	ANY LINE	Barometer 6790 ft. Thermometer 65°.
Total Trans		and the state of t

	ALTITUDE	CHAINS	192nd Mile.
	i mine		S. 89° 59' E. on tnagent to the parallel.
	4 200 e		Over rolling sand hills. Ascend.
	6900	9.00	Top of ridge, bears N. and S. Descend.
	taron su	21.00	Dry gulch, course N. E.
		36.00	Bottom of rocky canon, dry, course N. about 50 ft.
	Natants	A Lauran	deep.
	.43%	43.00	Bottom of dry canon, course N. W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 4 lks. Position of middle point
		igines in	by 1st set 80,02 chs. By 2nd set 79.98 chs.
			The mean of which is
	6875	80.00	North 3 lks. from the tangent.
	- Caro	to a bell	Set a sandstone 33x12x6 ins. on bare rock for 192nd
	alting be	B21 20	mile cor. Marked UTAH on N. 37 N, L. on E. ARIZ. on S.
		* (A.C.)	and 192 M. on the W. faces. Raised a mound of stone
			5 ft. base 2 ft. high around the cor. Raised a mound
			of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	MAN TO EN	diew and	Pits impracticable.
	1 7 6 2 1	ANTEL 4	Trees too small and scrubby for bearing trees.
	PERSONAL PROPERTY.	Of their	This cor, stands on the edge of a great wall that
17	neger on	Desg Lil I	bears N1 and S.
	Same of	SE 170 .	Land mountainous.
	nand a		Soil rocky and sandy, 4th rate.
			Timber - scrubby cedar and pinon.
,	020.0	1.53. 03	Barometer 6875 ft. Thermometer 80°.
			June 6th, 1901.
	the approprie		Cattle from their state from their state from their state state of the
			I examine the adjustments of the transit and compare
			the tapes with the standard and find all correct.
	, 207		193rd Mile.
			S. 89° 59' E. on the tangent to the parallel.
			Leave timber, bears N. and S. Descend the great wall.
			Stadia measurement. Angle 26° - Rod 12.295

		DEFINEDITING STATE OF STAIR AND THE IDERTITION OF ANIMONA.
ALTITUDE	CHAINS	double = 2459 ft. Constant 80.78 x 2459 = 1986.38 +
er.ex	- verte 1	C = 1.03 = 1987.41 ft. = 30.11 chs.
5800	30.11	Stadia point, foot of steep slope, bears N. and S.
		Thence by tape measurement. Descend.
bas	74.00	Bottom of rocky gulch, course N. E. Thence over
		rocky flat, enter scattering timber.
ministry of		Difference between measurements of 49.89 chs. by
- 0.0 an	in 88.8	two sets of chainmen is 6 lks. Position of middle
- 0 -		point by 1st set 49.92 chs. By 2nd set 49.86 chs.
00.00		The mean of which is 49.79 chs. + 30.11 chs. =
5875	80.00	North 7 lks. from the tangent.
	II Control in	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
10.50	ATTO POSTS	at the bottom 1 ft. in the ground to bed rock for
		193rd mile cor. A brass cap on top of the pipe has
		raised letters UTAH on N. ARIZ. on S. and 193 M.
20		stamped in the center. Raised a mound of stone 52 ft.
		base 21 ft. high around the post. Pits impracticable
		A piñon tree 10 ins. diam. bears S. 41° 30' E. 174
		lks. dist. Marked ARIZ. 193 M. B.T. Apinon tree 7 ms. dam. Bears N.77° W. 63 Lks. dist marked with 193 M B.T. No other trees within limits suitable for bearing trees
	tii Tidine	Land mountainous, broken.
.0	.0 .000	Soil rocky and sandy, 4th rate.
		Vegetation - grass, sage, scattering cedar and piñon.
		Barometer 5875 ft. Thermometer 63°.
	1-19	BOOK STORM CHANGE STORM FROM FROM STORM ST
		194th Mile.
	PA 17 CL 3 TL T	S. 89° 58' E. on tangent to the parallel.
		Over rolling and broken country, through scattering
		timber.
	0.35	Indian trail, bears N. and S.
5800	23.72	On west wall of canon. About 150 ft. deep, bears
		N. E. and S. W.
	5300 5375	ALTITUDE CHAINS

		Margara and the same and a second and the same and the sa
ALTITUDE	CHAINS	Thence by stadia measurement. Level. Rod 3.60 =
		360 ft. + C = 1.15 = 361.15 ft. = 5.47 chs. + 23.72 =
	M I. I'	29119°chs.
	26.00	Bottom of cañon, dry, course N. E. Ascend.
	29.19	Stadia point, east wall of cañon, bears N. E. and
		S. W. Thence by tape measurement.
5800	35,84	On west wall of cañon, bears N. E. and S. W. Thence
	10, 20,	by stadia measurement. Angle 6°- Rod 9.95 double =
	m, ns. se	1990 ft. Constant 98.91 x 1990 = 1968.31 + C =
	. write E.	1.14 = 1969.45 ft.=29.84 chs. + 35.84 chs. = 65.68 chs.
5600	45.00	Bottom of cañon about 200 ft. deep, course N. E.
	65,68	Stadia point on spur, slope N. E. Stadia.
	Marie Les	Angle 6° + Rod 9.22 double = 1844. Constant 98.91 x
	F 600.2 31	1844 = 1823,90 ft. + C = 1.14 = 1825.04 ft. =
	O. D. Della	27.65 chs. + 65.88 chs.= 93.33 chs.
5200	80.00	Bottom of Knock-Eye Cañon, course N. dry bed of
	19712 (462)	stream 30 lks. wide, walls smooth sandstone 75 ft.
	10000	high. Impracticable to establish the corner.
		Land mountainous.
	100	Soil rocky, 4th rate.
		Vegetation - grass, sage, scattering cedar and piñon.
		A water pocket in the canon about 15 chs. S. E.
		195th Mile.
		Continuing on tangent.
		Ascend.
5500	13.33	On rocky bench among angular blocks of stone. About
phi hashi		300 ft. above the bottom of canon.
Maria II		North 13 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	*	at the bottom 3 ft. in the ground for 194th mile cor.
		A brass cap on top of the pipe has raised letters UTAH
		on N. ARIZ. on S. and 194.166 M. stamped in the center.
		Raised a mound of stone 5 ft. base 2 ft. high around
	THE RESERVE OF THE PARTY OF THE	

ALTITUDE	Chains	the post. Pits impracticable.
	ndo I	Barometer 5500 ft. Thermometer 70°.
	ada .Z	S. 89° 57' E. continuing on tangent to the parallel.
		Ascend along rocky south slope.
	ano) , s	Stadia measurement. Angle 8°+ Rod 12.57 double =
	27 00.00	2514 ft. Constant 98.06 x 2514 = 2465.23 + C = 1.14=
		2466.37 ft. = 37.37 chs. + 13.33 chs. = 50.70 chs.
	50.70	Stadia point. Angle 9° + Rod 8.58 = 858 ft.
	and books	Constant 97.55 x 858 = 836.98 ft, + C = 1.13 =
	. NO Principal	838.11 ft. = 12.70 chs. + 50.70 chs. = 63.40 chs.
6000	63,40	On point of north wall of canon that juts out to
		the south, bears N. W. and N. E. Stadia. Level.
	2 to account	Rod 10.095 double = 2019 ft. + C. = 1.15 = 2020.15 ft.
		= 30.61 chs. + 63.40 chs. = 94.01 chs.
	80.00	Falls on south slope of canon wall. Inaccessable.
		Land mountainous, broken and precipitious.
	e familia	Soil rock, 4th rate.
		Vegetation - grass, sage, and scattering scrub cedar
		and piñon.
		196th Mile.
	, dean.	Continuing on tangent.
6000	7.4.05	Ascend. Top of north wall of canon.
8000	14.01	North 20 lks. from the tangent.
	To Maria	Set a sandstone 33x10x6 ins. 22 ins. in the ground
		for the 195th mile cor. marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 195.175 M. on the W. faces.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
1107, 134		of cor. Pits impracticable.
		Barometer 6000 ft. Thermometer 76°.
		S, 89° 57' E. on tangent to the parallel.
		Over broken ground.

ALTITUDE	CHAINS	Stadia. Level. Rod 7.99 double = 1598 ft. + C =
4		1.15 = 1599.15 ft. = 24.23 chs. + 14.01 chs. =
		38.24 chs.
Lutte	38,24	West wall of canon, bears N. W. and S. H. about
		6 chs. and then S. W. Descend.
20 01 5	unin Mila	Stadia. Angle 10°- Rod 12.86 = 1286 ft. Constant
mar, di	B 5 Fax 1888	96.98 x 1286 = 1247.16 + C = 1.13 = 1248.29 ft. =
, acto	07,00	18.91 chs. + 38.24 = 57.15 chs.
	47.00	Dry ravine, course S. about 150 ft. deep. Ascend.
	57.15	Stadia point on rocky spur, slope S. Stadia. Angle
	DF, CA	10°+ Rod 12.915 double = 2583 ft. Constant 96.98 x
	ALICE MET	2583 = 2504.99 + C = 1.13 = 2506.12 ft. = 37.97 chs.
	104 104	+ 57.15 chs. = 95.12 chs.
	80.00	Falls on steep rocky slope of canon. Impracticable to
		establishethe corner.
		Land rough and broken.
	CA)	Soil rocky, 4th rate.
77.01.73.64		Wegetation - grass, sage and scrub cedar and pinon.
		After 60th part for going after 10th part of 10th part 1
	1	197th Mile.
		Continuing on tangent.
		Descend.
5500	4.00	Bottom of dry rock canon, about 500 ft. deep,
		course S. W. about $\frac{1}{4}$ of a mile where it meets a
		canon from the S. E. Thence course W. Ascend.
	15.12	Stadia point on S. E. wall of canon, bears N. E.
		and S. W. Thence by tape measurement.
6200	19.28	North 29 lks. from the tangent.
		Set a sandstone 31x16x6 ins. on bare rock for 196th
		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 196.241 M. on the W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.

ALTITUDE	CHAINS	Barometer 6200 ft. Thermometer 76°.
	ett , arts	S. 89° 56' E. continuing on tangent to the parallel.
The second	LECTURE MILES	Over rough, broken, rock mesa, through scrubby
	* 6.11	cedar and piñon timber.
		Difference between measurements of 60.72 chs. by two
	* 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	sets of chainmen is 8 lks. Position of middle point
	in in h	by 1st set 60.76 chs. By 2nd set 60.68 chs.
, electrical designation of the second	n maria mari	The mean of which is 60.72 chs. + 19.28 chs. =
63 5 0	80.00	North 37 lks. from the tangent.
		Set a sandstone 36x8x8 ins. 24 ins. in the ground for
		197th mile cor. Marked UTAH on N. 37 N. L. on F.
		ARIZ. on S. and 197 M. on the W. faces. Dug pits
		36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
		Raised a mound of earth 52 ft. base 22 ft. high east
		of cor.
		A cedar tree 10 ins. diam. bears N. 33° 40' W. 51
		lks. dist. marked UTAH 197 M. B.T.
		A cedar tree 12 ins. diam. bears S. 69° E. 261 lks.
101		dist. marked ARIZ. 197 M. B.T.
n /100		No other trees within limits suitable for bearing
.48	- Toronton	trees.
		Land broken and rocky.
100000	e magra	Soil rocky, 4th rate.
	. 1001	Timber - piñon and cedar.
en was	12 SUNTER 1	There are some water pockets in a canon that runs
	ra di visite	west about a mile N. W.
not a	10 100	Barometer 6350 ft. Thermometer 80°. June 7th 1901.
	100	and the tennest and commons
		I test the adjustments of the transit and compare
	on the	the tapes with the standard and find all correct. 198th Mile.
	. 11 110	S. 89° 55' E. on tangent to the parallel.
		D. 02. 20. W. ou causome to out bararrer.

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	ALTITUDE	CHAINS	Over rolling sand hills and rock croppings.	
		1.00	Indian trail, bears N. W. and S. E.	
	l Garage		Difference between measurements of 75 chs. by two sets	
	C. LOUIS		of chainmen is 6 lks. Position of middle point by	
		Kin at Linear	1st set 75.03 chs. By 2nd set 74.97 chs.	
	William In		The mean of which is	
	6300	75,00	On west wall of Copper cañon, bears S. and N. W.	
	ATTACK O		Thence stadia. Angle 38°- Rod 8.14 double = 1628	
		The state of	ft. Constant 62.10 x 1628 = 1010.99 + C 0.90=	
			1011.89 ft = 15.33 chs. + 75.00 chs. = 90.33 chs.	
		80.00	Comes on slope of canon wall. Inaccessable.	
	200		Land mountainous and broken.	
			Soil rocky, 4th rate.	
			Vegetation - grass, cedar and piñon.	
			199th Mile.	
			Continuing on tangent.	
			Descend.	
	5650	10.33	North 51 1ks. from the tangent.	
	-		Set a sandstone 31x18x6 ins. 21 ins. in the ground	
			for 198th mile cor. Marked UTAH on N. 37 N. L. on	
			E. ARIZ. on S. and 198,129 M. on W. faces. Raised a	
	T de la		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.	
			Pits impracticable.	
			This cor. stands in Copper cañon on the slope at the	
			foot of the wall on west side of the gulch.	
			35 chs. north of this point I set up the iron pier and	
			establish the temporary Astronomical observatory	
			No. 5. There is a small spring at the head of the	
			east branch of this canon about $2\frac{1}{2}$ miles S. E.	
			June 8th, 1901.	
			June 14th, 1901, we take the latitude of this tempor-	
			ary observatory 37° 00' 23.8" north latitude.	
		1,484		

ALTITU	DDE CHAINS	This equals 36.46 north of the parallel.
		As our cor. is 35 chs. south of this point, we are
		within the limit of 3" of arc allowed in the in-
		structions, therefore I continue this line.
		This being an impracticable place to erect the Astro-
		nomical Monument, I proceed on the boundary mine.
		The top of the cañon wall to the east being inaccess-
		able, I offset north 10.51 chs. from the tangent.
A Carrell		Thence S89° 55' E. on the offset line parallel with
1		the tangent. Stadia measurement. Angle 25°+ Rod
		12.145 double = 2429 ft. Constant 82.14 x 2429 =
1,14		1995.18ft+ C = 1.04 = 1996.22 ft. = 30.24 chs. + 10.33
14		chs. = 40.57 chs.
N. Carlotte		Descend.
550	0 21.33	Bottom of Copper cañon, dry bed of stream, 50 lks.
		wide, course N. W. Ascend.
640	00 40.57	Top of east wall of Copper cañon bears N. and S.
		Thence by tape measurement ove rough, broken country,
	a Contract	through scrub cedar.
640	00 43.33	Top of wall about 100 ft. high, bears N. E. and S. W.
	THE PERSON NAMED IN	Descend.
	60.00	Bottom of chasm 100 ft. deep, drains S. Ascend.
	80.00	Falls on rough S. W. slope among big angular blocks
		of stone. Impracticable to establish cor.
		Land mountainous, rough and broken.
		Soil rocky, 4th rate.
,		Vegetation - grass and sage, scrub cedar and piñon
		timber.
		200th Mile.
		S. 89° 54' E. on offset line 10.51 chs. north of
-A .		the tangent and parallel with it.
		Ascend.
1 100	3.83	Same wall bears N. W. and S. E. about 150 ft. high.
		Ascend.

ALTITUDE	CHAINS	
6600	4.52	North 13 lks. from the offset line.
9 1974	un i gerra	Set a sandstone 30x10x6 ins. 20 ins. in the ground for W.C.
	Mary Jam	witness corner for the 199th mile cor. Marked UTAH on
140.4	id , bittl	N. 37 N. L. on E. ARIZ. on S. and 199.056 M. on the
902 3 m A	extrator	W. faces. Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
* 01	A.S. Capille	high east of cor. Pits impracticable.
- strainly a		This offset is 10.51 chs. north of the tangent to the
	12 July 194	parallel, and the offset for this station is 53 lks.
Walter	To ad one	Thereby placing this cor. 10 chs. north of the parall-
ANOTH	wan se	el.
	1.00 元 多二	Barometer 6600 ft. Thermometer 60°.
SS-DI -	, aith an	Continuing on offset line.
		Ascend.
6650	13.00	On the west wall of cañon, bears N. and S. Descend.
in and	MI . MAG	Stadia measurement. Angle 279- Rod 12.59 double-
		2518 ft. Constant 79.39 x 2518 = 1993,04 ft. + C =
	0,50	1.02 = 2000.06 ft. = 30.30 chs. + 13.00 chs. = 43.30
. 122 / 742	i de de	chs.
5750	43,30	Stadia point on slope east of foot of wall, offset
	10 . 1 . 11	south 10.51 chs. to the tangent to the parallel. Thence S. 89° 54' E. on the tangent to the parallel. Descend along N. E. slope. Thence by tape measure-
	19 5 M	ment.
SHOP	Madel	Difference between measurements of 25.18 chs. by two
	- Marin	sets of chainmen is 2 lks. Position of middle point
The same		by 1st set 25.19 chs. By 2nd set 25.17 chs.
		The mean of which is 25.18 chs. + 30.30 chs. + 4.52
	L'hop us	chs. = 60.00 chs.
5700	60.00	North 73 lks. from tangent.
		Set a shaft of sandstone 6 ft. long, 30 ins. broad
-		and 12 ins. thick, dressed 8 ins. down from the top,
		3 ft. in the ground, for Astronomical Monument No. 5.
		Marked with letters 12 ins. square, deeply graven in
400.00		the stone, UTAH on the N. 37 N. L. on E. ARIZONA on
		the S. and 199.75 M.on the W. faces.
The state of the s		

ALTITUDE	CHAINS	Raised a mound of stone 6 ft. base 2 ft. high around
KI).	notragan	the shaft, and dug pits 36x36x18 ins. N. S. E. and W.
157730 ;	cauriffic a	of the shaft 6 ft. dist.
113 122 .70	ov tra jac	This cor. stands in open country in wide cañon about
	1.8	la miles north of where the cañon heads.
oc neria	109 20 0	Substitute and A 49-4 Mark To 19 Mark Substitute and A 19-4
	aju dota	It is on the N. E. slope.
siton .	or or o	Obelisk bears N. 41° E. about 1 mile dist. This is
prince	edt to	a great square column of stone about 700 ft. high;
0.000	nat ye	there are two more about $\frac{1}{4}$ mile 6. E. of this one
198 49	ration 1	near a west salient of the high mesa.
TOTAL OF	The exa	A sharp N. W. salient of the mesa bears N. 86° 30' E.
Lond Carried	rente and	about 1000 ft. above the valley.
	riful a res	A sharp spur of the cliffs bears \$16° 20' E. This
1	The second second	monument was placed here rather than at the 200th
The state of the s		mile cor, because it was found that the 200th mile
		point falls near the bottom of a wash, practically
3.4		out of sight and in danger in time of flood.
ν,		Continuing on tangent to the parallel.
14		Descend.
		Difference between measurements of 20 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 20.01 chs. By 2nd set 19.99 chs.
		The mean of which is 20.00 chs. + 60.00 chs. =
5650	80.00	North 76 lks. from the tangent.
		Set a sandstone 30x15x10 ins. 20 ins. in the ground
		for the 200th mile cor. Marked UTAH on N. 37 N. L.
		on E. ARIZ, on S. and 200 M. on the W. faces.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
		of cor. Pits impracticable.
		Land mountainous, rolling and broken.
		Soil sandy and rocky, 4th rate.
		Vegetation - grass, sage and scrub timber on the cliffs
		Barometer 5650 ft. Thermometer 65°.
		June 14th, 1901.

ALTITUD	E CHAINS	June 15th, at the 200th mile cor. at lh, 5lm, A. M.
4 18	Marie V	l.m.t. I observe Polaris at eastern elongation in
	1	accordance with the instructions in the manual; and
drode	rolling by	marked the point so determined on a plug driven in the
		ground north of my station.
		At 6h, 50m, A. M. I lay off the azimuth of Polaris 1°
12.0		32' to the west and mark the true meridian thus de-
in the	A. Carlo	termined on a plug driven in the ground 10 chs. north
	nhit: 12	of my station. The magnetic bearing of the said
		meridian is N. 15° 0' W. This reduced by the table
No.	100 .100	page 100 gives the mean magnetic declination 14° 56' E.
		From the said meridian I lay off an angle of 90° from
1	1000	the north to the east for the tangent to the parallel.
	HE MALE	In all these operations the mean of four sights was
Li oz	e major hei	taken with the telescope reversed at each sight.
T JEE	i de la composition della comp	201st Mile.
	A Peer	E. on the tangent to the parallel.
		Descend,
	0.75	Bottom of wash, dry, course N. W.
7	1 10 . 100	Ascend over rolling land.
\$1.00	7.00	Parada Cilia de la Companya de
	49,00	Dry gulch, course N. W. Foot of slope bears N. W.
		and S. E. Ascend.
		Difference between measurements of 80. chs. by two
- Prograda	Control	sets of chainmen is 2 lks. Position of middle point
	A 14	by 1st set is 80.01 chs. By 2nd set 79.99 chs.
	Laborator .	The mean of which is
5900	80,00	North .76 of a lk. from the tangent.
		Set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 201st mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 201 M. on the W. faces. Raised a
	o ne non	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands near the foot of a steep slope among

ALTITUDE	CHAINS	angular fragments of rock.
	. 11110	Land rolling.
		Soil sandy, 3rd rate.
i des	in land	Vegetation - grass and sage.
		Barometer 5900 ft. Thermometer 65°.
		. VARLEGE DAORTE CO. P. SOOD FORMANDER
		202nd Mile.
		S. 89° 59' E. on tangent to the parallel.
	. T/6	Ascend very steep over broken rock and sandstone cliffs
		Not being able to see the top of the wall from the
i ba	mile , qe	cor. I move back on the tangent 2.77 chs. to the 77.23
	PRINCE LE	ch. mark; thence by stadia measurement. Angle 23° +
\$ 11.00.	laus) J	Rod 13.00 double = 2600. Constant 84.73 x 2600 =
wig pro.	10	2202.98 + C = 1.05 = 2204.03ft= 33.39 chs 2.77 chs.=
		30,62 chs.
6835	30.62	Top of wall bears N. W. and S. E. About 1000 ft.
01	ing yara	above the cor. This point is on a long narrow
		salient of the high mesa. Thence by tape measurement.
ove ite	32.59	Top of ridge bears N. W. and S. E. Descend. Stadia.
entog v	I DEM TO	Angle 40- Rod 12.60 = 1260 ft. Constant 99.51 x
, etc.	0 Lay, 28	1260 = 1253.83 + C = 1.15 = 1254.98 ft. = 19.01 chs.
1911-	e ando di	+ 32.59 chs. = 51.60 chs.
	51.60	On the top of rocky spur, slope N. Stadia.
They co	Ch much re	Angle 6- Rod 7.91 double = 1582 ft. Constant 98.91
no .d	. MARGO.	x 1582 = 1564.76 + C= 1.14 = 1565.90 ft. = 23.73 chs.
Provide a	r males	+ 51.60 chs. = 75.33 chs.
6100	-65.00	Bottom of rock chasm about 700 ft. deep, course N. W.
		Ascend.
. a . pass .	75.33	Stadia point on rock, bears N. W. and S. E. Thence
	. 900	by tape measurement. Ascend.
6900	80.00	North 3 lks. from the tangent.
4 4 4 1		Set a sandstone 36x12x6 ins. 24 ins. in the ground
1 1 100		for 202nd mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 202 M. on the W. faces. Raised a
		mound of stone 5% ft. base 2% ft. high east of cor.

ALTITUDE	CHAINS	Pits impracticable.
		Land mountainous, broken and precipitious.
		Soil rocky, 3rd rate.
		Vegetation - grass and sage, with scattering scrub
		cedar and piñon.
		Barometer 6900 ft. Thermometer 80°.
		The state of the s
		203rd Mile.
distant of		S. 89° 59' E. on tangent to the parallel.
- The same		Ascend over rocks, through scrub cedar.
6950	23.00	On west wall of canon about 200 ft. deep, course
4 675		N. E. and S. W. Thence by stadia measurement.
Mary The		Angle 2°+ Rod 11.635 double = 2327 ft. Constant
Land 1		99.88 x 2327 = 2324.21 + C_{\circ} = 2325.36 ft. = 35.23 chs.
		+ 23.00 chs. = 58.23 chs.
7100	58,23	On same wall, bears N. W. and S. E. Thence ascend
		over sand hills and through scrub cedar by tape
A COLUMN TO SERVICE OF		measurement.
		Difference between measurements of 21.77 chs. by two
	- 69	sets of chainmen is 2 lks. Position of middle point
		by 1st set is 21.78 chs. By 2nd set 21.76 chs.
		The mean of which is 21.77 chs. + 58.23 chs. =
7240	80.00	
		Set a sandstone 36x20x6 ins. 24 ins. in the ground
	20 4	for 203rd mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. 203 M on the W. faces. Raised a mound
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands on top of high mesa, bears N. and S.
		Trees too rough to mark for bearing trees.
		Land mountainous, rough and broken.
		Soil rocky and sandy, 4th rate
		Vegetation - grass and sage; scrub cedar and piñon.
4		Barometer 7240 ft. Thermometer 81°.

11111	14-1-7-11	A AAA WATTA AA AAAA
ALTITUDE	CHAINS	204th Mile.
1		S. 89° 58' E. on tangent to the parallel.
11. , A ,		Descend gradually over rolling sand hills, through
		scrub cedar and piffon.
7180	40.71	Top of high west wall of canon, bears N. and S.
		Descend.
		The distance to the bottom of the cañon being too
		great for the stadia rod, I set a flag on the line in
		the bottom of the cañon, and leaving the flag at this
		point I descend to the one in the cañon. Measure a
		base S. 0° 02' W. at right angles to the tangent 20
-11		chs. from the south end of the base, sight to the
Ha Ta	rat	north end and measure the angle to the flag on the
		ton of the cliffs. I find the mean of four sights
mark to the		with the telescope reversed at each sight, gives this
and a		angle 58° 47'. 33.chs - Tangent E
		#
		2008
-4	State	25 S S S S S S S S S S S S S S S S S S S
Ta Wanda.		
1		00 00ds tan. 58° 47'
- DAM		Then base 20.00% tan. 58° 47' 10g. 20.00 chs. = 1.301030 10g. 58° 47' = 10.217514
		log. tan. 58° 47' =10.217514 log. tan. 58° 47' 1.518544 = 33.00 chs. +
		40.71 chs. =
7-700	73.71	maignoulation point, foot of steep slope east edge of
	10,12	cliffs, about 1000 ft. below the top of same, bears
		n and S. Thence by tapemeasurement.
		Difference between measurements of 47 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 47.03 chs. By 2nd set 46.97 chs.
		The mean of which is 47.00 chs. + 33.00 chs. =
5950	80.00	North 12 1ks. from the tangent.
		set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 204th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 204 M. on W. faces. Raised a mound

	D 0 0 1	12 11111	221, 241
	ALTITUDE	CHAINS	of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of the cor.
		4.70	Pits impracticable.
	diame	da ,etu	This cor. stands in a narrow cañon that bears N. and S
			Walls to the east, rough, about 200 ft. high.
	. 8	Site . W	Land mountainous, rough and broken.
			Soil rocky, 4th rate.
	put	probability and	Vegetation - grass, sage, and scrub cedar and piñon,
		100 mg	on high mesa.
		ALC: ON	Barometer 5950 ft. Thermometer 77°.
	i house	10.	June 15th, 1901.
	New State	Marie St.	1 Bit automorphism to the first the first to
	ada.	My tract	205th Mile.
	Target in		S. 89° 57' E. on tangent to the parallel.
	- Admin		Ascend over rough sandstone cliffs.
	e kitter aus	in a take	As I cannot see the top of the ridge ahead from the
			cor., I move back on the tangent 6.29 chs. to the 73.71
			ch. point. Thence by stadia measurement.
			Angle 5°+ Rod 12.555 double = 2511 ft. Constant
			99.24 x 2511 = 2491.92 ft. + C = 1.14 = 2493.06 ft. =
			37.77 chs 6.29 chs. = 31.48 chs.
	6175	31.48	On top of rocky ridge, bears N. and S. Descend.
			Thence by tape measurement.
	-	33,40	On wall of rock, bears N. and S. overlooking a little
			valley.
	Tel asign	Philips ma	Agatha Needle bears S. 26° 15' E. Descend.
	- marri		Stadia. Angle 24°- Rod 7.35 double = 1470 ft.
		100000	Constant 83.46 x $1470 = 1226.86 + C = 1.05 = 1227.91$
			ft. = 18.60 chs. + 33.40 chs. = 52.00 chs.
	5600	52.00	Foot of steep slope, bears N. and S.
			Thence over gently rolling land by tape measurement.
			Difference between measurements of 29.92 chs. by two
			sets of chainmen is 2 lks. Position of middle point
-	,	with the	by 1st set is 29.93 chs. By 2nd set 29.91 chs.
-			The mean of which is 29.92 chs. + 50.08 chs. =
	5675	80.00	North 19 1ks. from the tangent.
-			

ALTITUDE	Chains	Set a sandstone 33x10x6 ins. 22 ins. in the ground
		for 205th mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 205 M. on the W. faces. Raised
nuced.	ar nag	a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	drawwani	Pits impracticable.
		This cor. stands in little valley.
поесы	wing Know	Land rolling and broken.
1 . 3 /M/.	at mo a	Soil rocky and sandy, 4th rate.
to bu	por a bor	Vegetation - grass and sage.
matal	. TOD BY	Barometer 5675 ft. Thermometer 75°,
too to	and state	Transfer Country of the Edition of Edition of the E
		206th Mile.
		S. 89° 57' E. on tangent to the parallel.
. 6800	ST.S.	Over gently rolling valley.
	, weeks	Difference between measurements of 44.33 chs. by two
		sets of chainmen is 4 lks. Position of middle point
	74.41	by 1st set 44.35 chs. By 2nd set 44.31 chs.
follow	re piete ou	The mean of which is
5675	44.33	West wall of canon, bears N. E. and S. W. About
in the first of the first	re"hnl"i	150 ft. deep. Descend.
	77447	Stadia measurement. Level. Rod 12.15 double =
parament	and allower	2430 ft. + C = 1.15 = 2431.15 ft. = 36.83 chs. +
		44.33 chs. = 81.16 chs.
5525	48.00	Foot of slope bears N. E. and S. W.
5400	60.00	Dry bed of sand creek 3 chs. wide, dry, course N. E.
	on beauty	about 150 ft. below top of wall, There is a water
	NO.	hole at the mouth of Moonlight Cañon about 12 miles
201 200	Name of the	north.
1202 01	66.00	Foot of slope, bears N. and S. Ascend.
	80.00	On slope of rock wall. Impracticable to establish
	- Line to	the corner.
		Land rolling and broken.
Participant.	a new right	Soil rocky and sandy, 3rd rate.
An all	ale No. 4	Vegetation - grass, sage and scattering scrub cedar.
	-0019	data man qui a di ci di ci que dons sens citas

	ALTITUDE	CHAINS	207th Mile.	
			Continuing on tangent.	
	bent de	E. House	Ascend.	
		1.16	On top of wall, bears N. and S. about 150 ft. above	
			bottom of creek. Thence by tape measurement.	
	5600	2.00	North 27 1ks. from the tangent.	
			Set a sandstone 40x10x7 ins, on bed rock for 206th	
1			mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on	
			S. and 206.025 M. on W. faces. Raised a mound of	
			stone 5 ft. base 2 ft. high aroung the cor. Raised	
			a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.	
			Pits impracticable.	
			Land rolling and broken.	
			Soil sandy and rocky, 3rd rate.	
	my y	Service.	Vegetation - grass, sage and scrub cedar.	
			Barometer 5600 ft. Thermometer 80°.	
		der et,	June 16th, 1901.	
			S. 89° 56' E. continuing on tangent to the parallel.	
	-		I examine the adjustments of the transit and compare	
			the steel tapes with the standard and find everything	
		Salaron S	correct.	
			Ascend over rocky and sandy land, through scattering	
			scrub cedar and piñon.	
		20,20	Dry cañon, course S. E. about 50 ft. deep.	
		42.30	Bottom of cañon, course S. W. Ascend.	
			Top of east wall of cañon bears N. E. and S. W.	
		63,55	Agatha Needle bears S, 16° 18' E.	
			Difference between measurements of 78.00 chs. by two	
			sets of chainmen is 6 lks. Position of middle point	
			by 1st set 78.03 chs. By 2nd set 77.97 chs.	
			The mean of which is 78.00 chs. + 2.00 chs. =	
	5690	80.00	North 37 lks. from the tangent.	
			Set a sandstone 30x12x6 ins. 20 ins. in the ground	
			for 207th mide cor. Marked UTAH on N. 37 N. L. on	
			E. ARIZ. on S. and 207 M. on the W. faces.	
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.	

ALTITUDE	Chains	6 ft. dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
muhab	Sales Sales	ft. high east of cor.
		No trees within limits suitable for bearing trees.
		Land mountainous.
		Soil sandy and rocky, 4th rate.
		Vegetation - grass, sage and scattering cedar and
	100	piñon.
		Barometer 5690 ft. Thermometer 82°.
	(
	No.	208th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Ascend over rolling sand hills through scattering
00.00		scrub timber.
5800	32.84	Stadia point. Angle 10°- Rod 13.00 = 1300 ft.
		Constant 96.98 x 1300 = 1260.74 + C = 1.13 =
		1261.87 ft. = 19.12 chs. + 32.84 chs. = 51.96 chs.
	34.00	On west wall of cañon, bears N. E. and S. W. about
		200 ft. deep. Descend.
	40.00	Foot of slope, bears N. E. and S. W.
	51.96	Stadia point. Thence by tape measurement.
	70.50	Dry gulch, course N. E.
	79.00	Dry gulch, course N. W.
37 J4		Difference between measurements of 60.88 chs. by two
diana at		sets of chainmen is 8 lks. Position of middle point
		by 1st set 60.92 chs. By 2nd set 60.84 chs.
	. wew this	The mean of which is 60.88 chs. + 19.12 chs. =
5700	80.00	North 49 lks. from the tangent.
		Set a sandstone 30x14x6 ins. 20 ins. in the ground
	A Second	for 208th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 208 M. on the W. faces. Raised a
. 17.78	son an	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	Gr. dwad	Pits impracticable.
		This cor. stands at foot of rocky S. W. slope in
	Sittle All s	bottom of cañon
		Land rolling and broken.

ALTITUDE	CHAINS	Soil rocky and sandy, 4th rate.
		Vegetation - grass, sage and scattering scrub cedar
	- pritte an	and piñon.
		Barometer 5700 ft. Thermometer 82°.
		AND THE PROPERTY OF THE PERSON
		209th Mile.
		S. 89° 55' E. on tangent to the parallel.
	100	Ascend rocky S. W. slope.
	11.09	Top of spur, slope S. W. Descend.
	14.00	Deep rocky ravine, course S. W. Ascend.
5900	19.45	On east wall of canon, bears N. E. and S. W.
		Thence over rocky mesa.
5910	58.44	On west wall of canon, bears N. and S. about 10.00
		chs. then N. W.
		Stadia measurement. Angle 24°- Rod 9.50 ft.=
- Hill		950 ft. Constant 83.46 x 950 = 792.87 + C = 1.04 =
		793.91 ft. = 12.03 chs. + 58.44 chs. = 70.47 chs.
5500	68,00	Foot of slope, bears S. and N. W.
	70.47	Stadia point. Thence by tape measurement.
	73.00	Indian trail, bears N. W. and S. E.
	75.50	Bottom of wash, dry, course N. W.
		This is the upper end of Moonlight Cañon.
		Difference between measurements of 67.97 chs. by two
1000000		sets of chainmen is 4 lks. Position of middle point
	PRODUCTION !	by 1st set 67.99 chs. By 2nd set 67.95 chs.
	- prepare	The mean of which is 67.97 chs. + 12.03 chs. =
5550	80.00	North 62 1ks. from the tangent.
-		Set a sandstone 30x10x6 ins. 20 ins. in the ground
		for 209th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 209 M. on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
1		high east of cor.
		A black volcanic butte bears N. 29 16' W. about
		3/4 of a mile dist.

ALTITUDE	CHAINS	Agatha Needle bears S. 6° 08' E.
		A round butte with a crown of rocks on top bears
	- 30.00	S. 49° 02' E. about 1 mile dist.
ne se or	d orner o	Land broken and rocky.
damn E. 3	Dentros 1	Soil sandy and rocky, 4th rate.
, he	monost	Vegetation - grass, sage, and scattering cedar and
. 14 0.00	E on Diff. I	piñon.
	85 × 61	Barometer 5550 ft. Thermometer 83°.
		15.00 cm. = 10.00 cm. = 0.00 cm. = 10.00 cm.
.17. 0	oc. snouz	210th Miles
-		S. 89° 54' E. on tangent to the parallel.
		Over rolling sand hills.
	21.00	Stadia measurement. Angle 8°+ Rod 10.06 double =
esaes,		2112 ft. Constant 98.06 x 2012 = 1972.97 + C = 1.14 =
0000		1974.11 ft. = 29.91 chs. + 21.00 chs. = 50.91 chs.
	35.00	Foot of rocky slope, bears N. W. and S. E. Ascend.
	50.91	On sharp rock spur, slopes S.
1		Stadia. Level. Rod 9.70 double = 1940 ft. + C. = 1.15
	* 96,50	= 1941.15 ft. = 29.41 chs. + 50.91 chs. = 80.32 chs.
100000		- 32 lks. = 80.00 chs.
6000	80.00	North 76 lks. from the tangent.
. Top		Set a sandstone 38x12x11 ins. on bare rock on point
esta		of spur, a south salient of cliffs, for 210th mile
.enip	U-ULAT NO	cor. marked UTAH on N. 37 N. L. on E. ARIZ. on S. and
2000		210 M. on W. faces. Raised a mound of stone $5\frac{1}{2}$ ft.
207,48		base 22 ft. high around the cor., and raised a mound
THE RE		of stone 5½ ft. base 2½ ft. high east of cor.
D Dest.		Pits impracticable.
* 700	All Philip	Land mountainous, rough and broken.
		Soil rocky and sandy, 4th rate.
		Vegetation - grass and sage.
		Barmometer 6000 ft. Thermometer 75%.
		June 17th, 1901.
		(APPER STOTE of the Basic March Marc

ALTITUDE	Chains	211th Mile.
		S. 89° 53' E. on tangent to the parallel.
		Descend over rocky, broken ground.
		I examine and adjust the transit and compare the steel
		tape with the standard and find them of correct length
	0.40	Top of cliffs, bearing N. E. and S. W. Descend.
		Stadia measurement. Angle 9°- Rod 12.98 = 1298 ft.
		Constant 97.55 x 1298 = 1266.20 + C 1.13 = 1267.33 ft.
		= 19.20 chs. + 0.40 chs. = 19.60 chs.
	10.00	Foot of cliffs, bears N. E. and S. W. about 200 ft.
		below the top.
	19.60	Stadia point. Thence by tape measurement.
5790	41.00	Dry gulch, course S. W.
	42.33	Stadia measurement. Ascend over steep cliffs, bears
		N. E. and S. W. Angle 11°+ Rod 8.25 double = 1650
	Ph.	ft. Constant 96.36 x 1650 = 1589.94 + C.=1.13 =
	and all a	1591.07# = 24.10 chs. + 42.33 chs. = 66.43 chs.
	66.43	NORTH CONTROL OF THE PROPERTY
	7 .	7.95 = 795 ft. Constant 99.24 x 795 = 788.96 + C. =
	.919	1.14 = 790.10 ft. = 11.97 chs. + 66.43 chs. = 78.40chs
	78.40	The state of the s
6220	79,20	Comes on edge of cliff. As the point for the cor.
		at 80 chs. falls on a slope too steep to admit the
		establishment of the cor., I place it at this point.
		N. 92 lks. from the tangent.
		Set a sandstone 33x10x6 ins. 22ins. in the ground for
Name of S		the 211th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 210.99 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands on a wall that bears N. and S. in
		a pass or saddle.
		Barom. 62207t. Therm. 70°.

	ALTITUDE	CHAINS	Alfordia San American a American San San San San San San San San San S
	111111022		Continuing on tangent.
	สรขาเ	and the same of	Descend.
	11000	80.00	Comes on steep rocky slope. Impracticable to establish
		* 50	the cor.
		- Charles	Land mountainous.
			Soil rocky, 4th Fate.
	rabi	n unitro	Vegetation - grass and sage.
			Supplied to the state of the st
			212th Mile.
		80.00	S. 89° 53' E. on tangent to the parallel.
			Descend over broken, rocky country.
		, tal	Stadia measurement. Angle 11°- Rod 7.065 double =
		- Marcon	1413 ft. Constant 96.36 x 1413 ft. = 1361.57 + C. =
		dulodin , i	1.13 = 1362.70 ft. = 20.64 chs 80.00 lks. = 19.84
			chs. This stadia measurement is taken from the
		. 1	corner 80 lks. W. of the 80 ch. mark.
		ad Ball as	STREET, STREET OF LANDING STREET, STRE
		9.00	Foot of cliffs, about 250 ft. below the top, bears
			N. and S.
	5970	19.84	Stadia point. Thence over rolling sand hills by tape
			measurement.
1 10		21.00	Dry gulch, course S.
		40.50	Dry gulch, course S. W. Ascend along south slope of
		_ nrin	smooth sandstone butte.
	6070	54.20	On south slope of butte about 70 ft, high. Descend.
	6000	58.50	Foot of butte, bears N. E. and S. W. Thence over
	hanes		sand hills.
	t nn		Difference between measurements of 60.16 chs. by two
	n little		sets of chainmen is 2 lks. Position of middle point
	. 200		by 1st set 60.17 chs. By 2nd set 60.15 chs.
			The mean of which is 60.16 chs. + 19.84 chs. =
	6000	80.00	North 110 1ks. from the tangent.
			Set a sandstone 30x12x10 ins. 20 ins. in the ground
			for 212th mile cor. marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 212 M. on the W. faces.
			Dug pits 36x36x18 ins. N. S. H. and W. of the cor.
			bug pits severite ine we as and we or one core

ALTITUDE	CHAINS	6 ft. dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$
		ft. high east of cor.
	NA GARAGO	A cross on the south wall of the canon bears south
		436 lks. dist. marked ARIZ. + 212 M. B. O.
		Land rolling and broken.
		Soil sandy and rocky, 4th rate.
		Vegetation - grass and sage; few scattering cedar
		trees.
		Barometer 6000 ft. Thermometer 76°.
	. 10	Both ben't part complete to Block bank from sent to the Date
		213th Mile.
	ALTERNATION.	S. 89° 52' E. on tangent to the parallel.
		Ascend over sand hills, following up valley, about
		12 chs, wide, with perpendicular walls, about 300 ft.
		high, on north and south.
	2.00	Dry bed of stream, 1 ch. wide, course S. W.
	44.24	Offset south 8 chs. to avoid impassable butte about
		250 ft. high. Thence ran S. 89° 52' E. on the
		offset line parallel with the tangent.
	61.74	Set back north 8 chs. to the tangent. Thence \$89° 52
		E. on tangent to the parallel.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 8 lks. Position of middle point by
		1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
6040	80.00	North 129 lks. from the tangent.
		Set a sandstone 32x12x7 ins. 21 ins. in the ground
		for 213th mile core marked UTAH on N. 37 N. L. on E.
		ARIZ, on S. and 213 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		Trees too rough to mark for bearing trees.
		Land rolling valley.
		Soil sandy, 4th rate.

	ALTITUDE	CHAINS	Timber - scattering cedar.
	, 700	to Jane	This mile follows up a little valley from 10 to 15
- 6			chs. wide, with perpendicular walls of sandstone about
0		o dat F.	300 ft. high.
		Baro	Barometer 6040 ft. Thermometer 82°.
			Surveyed to adduct to the boundary surface of the s
			214th Mile.
			S. 89° 51' E' on tangent to the parallel.
	,	ampet en	Ascend over sand hills, following up the little valley
		40.00	Offset 1 ch. north to avoid smooth sandstone wall,
			about 300 ft. high. Ran S. 89° 51' E. on offset
		na.ue!	line parallel with the tangent.
	neta	48.74	Foot of wall rising to the south; thence by stadia.
		Saulit	Angle 10°+ Rod 3.03 = 303 ft. Constant 96,98 x 303
		140-418	= 293.85 + C. = 1.13 = 294.98 ft. = 4.47 chs. + 48.74
	1.9 0.4	na eostavi	chs. = 53.21 chs.
	6500	53.21	Top of rounded sandstone butte about 75 ft. high, on
		- 640	the north side, and 150 ft. Wigh on the south side,
	nyon ow	a Au * sev	At the head of little valley that runs west. About
		Logiquesa	5 chs. north a cave in the cliff wall contains ruins
	,	. 8110	of ancient cliff dwellers. Descend.
			Stadia. Angle 14°- Rod 7.265 double = 1453 ft.
	est co	L al noi	Constant 94.13 x 1453 = 1368.00 ft. + C = 1.11 = 1369.11
		0 1 3700	ft. = 20.74 chs. + 53.21 chs. = 73.95 chs.
	annie P	73.95	Stadia point. Thence by tape measurement.
	ette	*** *** ****	Difference between measurements of 54.79 chs. by two
	thi h		sets of chainmen is 8 lks. Position of middle point
	er at h		by 1st set 54.83 chs. By 2nd set 54.75 chs.
		fathin Comm	The mean of which is 54.79 chs. + 4.47 chs. + 20.74
			chs. =
	6000	80,00	North 50 lks. from the offset line which is 100 lks. north of the tangent, give 150 lks. north from the
	, ir geng	evi engli	THE SHOW HE A PROPERTY OF THE PARTY OF THE P
			tangent. Set a sandstone 30x14x7 ins. 20 ins. in the ground for
1	100	7 . W in	214th mile cor. Marked UTAH on N. 37 N. L. on E.
			STICH HITTO COT . WOTTOU O'THI OH HE OF HE DE CHI TIE

		THE THE PARTY OF T
ALTITUDE	CHAINS	ARIZ. on S. and 214 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		A cedar tree 10 ins. diam. bears N. 11° 44' E. 78 lks.
		dist. marked UTAH 214 M. B.T.
		No other trees within limits.
		Land rough and broken.
		Soil rocky, 4th rate.
		Vegetation - grass, sage and a few cedar trees.
		Barometer 6000 ft. Thermometer 85°.
		gas for som gas you can som the first
		215th Mile.
		S. 89° 51' E. on offset line 100 lks. north of the
		tangent and parallel with it.
		Descend over rolling land.
	20.00	Foot of hill, bears N. E. and S. W.; thence across
		valley.
	60,80	Bottom of wash, 25 lks. wide, course N., dry.
		Difference between measurement of 80 chs. by two sets
		of chainmen is 6 lks. Position of middle point by
		1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5910	80.00	North 72 lks. from the offset line, which is 100 lks.
		north of the tangent, making 172 lks. north of the
		tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for the 215th mile
		cor. a brass cap on top of the pipe has raised let-
		ters, UTAH on N. ARIZ. on S. and 215 M. stamped in the
		center. Dug pits 36x36x18 ins. N. S. E. and W. of
	Page of	the cor. & ft. dist. Raised a mound of earth 5 ft.
		base 2 ft. high around the post.
		The most northern pinnacle of Monument Pass bears N.
		28° 55' E.
		Ragged topped monument in the pass bears S. 83° 00'E.
THE RESERVE		

ALTITUDE	CHAINS	A large flat topped monument west of the pass bears
		S. 29° 30' E.
-1.		Land nearly level.
	No.	Soil sandy, 3rd rate.
	146	Vegetation - grass, sage and greasewood.
		Barometer 5910 ft. Thermometer 85°.
. 3		216th Mile.
1		S. 89° 50' E. 100 lks. north of the tangent and
		parallel with it.
	7	Over gently rolling valley.
	38.00	Dry gulch, course N. W.
- 10 10	51.40	Dry gulch, course N. W.
	54.50	The same gulch, course S. W.
	56.90	The same gulch, course N. W.
emara es	N. do Port Sedio	Difference between measurements of 80 chs. by two sets
. 700 0	to a see on	of chairmen is 2 lks. Position of middle point by
ATT DIE	Armer Cont	1st set 80.01 chs. By 2nd set 79.99 chs.
Maria	TOWNS TOWNS	The mean of which is
6050	80,00	North 96 lks. from the offset line, which is 100 lks.
	R II mani	north of the tangent, making 196 lks. north from the
	1. m / 10	tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
1		at the bottom 3 ft. in the ground for the 216th mile
		cor. A brass cap on top of the pipe has raised let-
100		ters, UTAH on N. ARIZ. on S. and 216 M stamped in the
		center. Dug pits 36x36x18 ins. N. S. E. and W. of
		cor. 6 ft. dist. Raised a mound of earth 5 ft. base
M. A. Contract	Ar on	2 ft. high around the post. The most northern pinnacle of Monument Pass bears N.
-10 74	TO LAWYE	
	144 14	Ragged topped monument bears S. 80° 30' E.
Algreen	are ar	Flat topped monument bears S 6° 18' W. Vertical angle
		to the top of this monument 8°+.
THE WILL	COMPLET	

-	ALTITUDE	Chains	THE BETT HER STREET OF STREET THE TERRITORY OF ARIBOTYA.	
			Land nearly level.	
			Soil sandy, 2nd rate.	
			Vegetation - grass and sage.	
			Barometer 6050 ft. Thermometer 83°.	
			Company of the Compan	
			217th Mile.	
			S. 89° 49' E. on offset line 100 lks. north of the	٠
			tangent and parallel with it.	
			Over valley land, ascending gradually.	
			Difference between measurements of 80 chs. by two sets	
			of chainmen is nothing.	
			The mean is	
	6100	80.00	North 121 lks. from the offset line, which is 100 lks.	
			north of the tangent, making 221 lks. north from the	
			tangent.	
	Providence :	Mar, into	Set an iron pipe 2 ins. diam. 5 ft. long with flanges	
			at the bottom 3 ft. in the ground for 217th mile cor.	
			A brass cap on top of the pipe has raised letters UTAH	
			on N. ARIZ. on S. and 217 M. stamped in the center.	
		100 00	Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.	
	and the	4 1146	dist. Raised a mound of earth 5 ft. base 2 ft. high	
			around the post.	
		(100)	Land nearly level valley.	
	THE P	Mary all	Soil sandy, 2nd rate.	
			Vegetation - grass and sage.	
		Horaca Par	Barometer 6100 ft. Thermometer 75°.	
		P100 . 18	June 18th, 1901.	
			AND	
			At the 217th mile cor. June 19th, 1901, at 1h 35m A.M.	
	W. Hall		l.m.t. I observe Polaris at eastern elongation in ac-	
			cordance with instructions in the manual, and mark	
			the line so determined on a plug driven in the ground	
			north of my station.	
			At 6h 40m A.M. I lay off the azimuth of Polaris 1° 32'	
			to the west and mark the true meridian thus	
			o the did not the time that motter ones	

ALTITU	DE CHAINS	
		determined on a plug driven in the ground 10 chs.
	The state of the s	north of my station. The magnetic bearing of the
		said meridian is N. 15° 16' W. This reduced by the
		table page 100 of the manual gives the mean magnetic
		declination 15° 12' E. I now lay off an angle of
		90° from the north to the east for the tangent to the
		parallel. In all these observations the mean of four
		sights is taken with the instrument reversed at each
1 3 3 3 3		sight. The instrument was placed in perfect adjust-
	TO BUILD	ment previous to taking the Polaris observation.
		I compare the steel tapes with the standard and find
		them of correct length.
		218th Mile.
		East on the tangent to the parallel.
		Ascend gradually.
	47.00	Dry gulch, course N. W. Ascend.
		Leave valley, bears N. and S. Enter scattering cedar
		timber, bears N. and S.
6200	53.00	Top of ridge, bears N. and S.
		Monument pass about 20.00 chs. south; thence by stadia
		measurement. Angle 10°+ Rod 9.50 = 950 ft.
pd1	THE PARTY OF	Constant 96.98 x 950 = 921.31 + C. = 1.13 = 922.44
yl T	-1111	ft. = 13.98 chs. + 53.00 chs. = 66.98 chs.
6100	62.00	Bottom of rocky gulch, course S. E. about 100 ft. deep.
gone.	10. 10. 10.	Ascend.
6350	66,98	Stadia point on sharp rocky spur, slope S. about 300
		ft. high. Descend Angle 170- Rod 10.46 = 1046 ft.
		Constant $91.45 \times 1046 = 956.57 + C = 1.10 = 957.67$ ft.
		= 14.51 chs. + 66.98 = 81.49 chs 1.49 chs. = 80 chs
,		Difference between measurements of 53 chs. by two sets
		of chainmen is 2 lks. Position of middle point by
		lst set 53.01 chs. By 2nd set 52.99 chs.
		The mean of which is 53.00 chs. + 14.51 chs. + 13.98
		chs, = 81.49 chs 1.49 chs. =
605	80.00	North .76 of a lk. from the tangent.

ALTITUDE	CHAINS	Set a sandstone 30x16x6 ins. 20 ins. in the ground for
	a same	218th mile cor. marked UTAH on N. 37 N. L. on E. ARIZ.
		on S. and 218 M on Wo faces. Raised a mound of stone
		$5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		foot of This cor. stands near S. E. slope of big red butte
		north side of Monument pass.
	and the	Land rough and broken.
		Soil rocky, 4th rate.
		Vegetation - grass, sage and scattering cedar.
		Barometer 6050 ft. Thermometer 65°.
		The form pain can pas one and not the first time.
		219th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend over rolling land.
	19.00	Dry gulch, course S. E.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st set 80.05 chs. By 2nd set 79.95 chs.
a konto e	Tauchin	The mean of which is
5900	80.00	North 3 lks. from the tangent.
10.00		Set a sandstone 30x22x6 ins. 20 ins. in the ground
	7,375	for 219th mile cor. Marked UTAH on N. 37 N. L. on E.
and the		ARIZ. on S. and 219 M. on the W. faces.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
Acres du		of cor. Pits impracticable.
		The round tower bears N. 24° 55' E.
14.95		Ragged topped monument bears S. 11° 15' W.
		Flat topped monument, bears S. 65° 15' W.
		Land rolling.
953 40		Soil sandy and bad lands, 4th rate.
		Vegetation very scanty - grass and greasewood.
BELLE .		Barometer 5900 ft. Thermometer 71°.

ALTITUDE	Chains	220th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend over rolling bad land country.
	48.50	Wash, dry, course S. E.
g) mi	72.00	Wash, dry, course S. E.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 12 lks. Position of middle
	f-m-f	point by 1st set 80.06 chs. By, 2nd set 79.94 chs.
		The mean of which is
5800	80.00	North 7 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
Sir Overd	ed . peipel	at the bottom 3 ft. in the ground for 220th mile cor.
ve table	per of thirth	A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 220 M. stamped in the center.
		Raised a mound of stone 5 ft. base 2 ft. high aroung
		the post. Pits impracticable.
	rabu sana	Land rolling.
min and has	ture transition and	Soil gypsum, bad lands, 4th rate.
0203		Vegetation very scanty - grass and greasewood.
Acres mil		Barometer 5800 ft. Thermometer 85°.
Arrania .	vite to	
DUNG BUILD		221st Mile.
		S. 89° 58' E. on tangent to the parallel.
		Descend over rolling bad lands.
	114 200	Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5750	80.00	North 12 1ks. from the tangent.
		Set an iron pipe 2 ind. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 221st mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 221 M. stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
	Walter Co.	6 ft. dist. Raised a mound of earth 5 ft. base

ALTITUDE	CHAINS	O St. Inich amound the mout
		2 ft. high around the post.
		Land, rolling bad lands.
		Soil sandy, bad lands, 4th rate.
	1000	Vegetation very scanty - grass and greasewood.
The same of		Barometer 5750 ft. Thermometer 90°.
		222nd Mile.
		S. 89° 57' E. on tangent to the parallel.
	5,00	Over rolling hills.
	3,00	and short band nills, bears w. w. and
		S. E.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 12 lks. Position of middle point by
Smarren	Mara Ca	1st set 80.06 chs. By 2nd set 79.94 chs.
5775	80.00	The mean of which is
	00.00	The state of the s
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	. Helmins	at the bottom, 3 ft. in the ground for 222nd mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 222 M. stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft. dist. Raised a mound of earth 5 ft. base and
		2 ft. high around the post.
		Round tower bears N. 38° 30' W.
		Ragged topped monument bears S. 31° 44' W.
		Land rolling sand hills.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5775 ft. Thermometer 90°.
		Come state that come are fined away.
		223rd Mile.
		S. 89° 57' E. on tangent to the parallel.
	70.00	Over rolling sand hills.
	32.00	Dry gulch, course s. F.

ALTITUDE	Chains	Difference between measurements of 80 chs. by two	
		sets of chainmen is 4 lks. Position of middle point	
	4	by 1st set 80.02 chs. By 2nd set 79.98 chs.	
h. F	. for	The mean of which is	
5740	80.00	North 27 lks, from the tangent.	
OW /	et sure t	Set an iron pipe 2 ins. diam 5 ft. long with flanges	
tog exter		at the bottom 3 ft. in the ground for 223rd mile cor.	
		A brass cap on top of the pipe has raised letters	
		UTAH on N. ARIZ. on S. and 223 M. stamped in the center.	
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.	
water City		6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.	
ion oak	nrage v	high around the post.	
- arest	ar look	Land rolling sand hills.	
then not	- Let choop	Soil sandy, 4th rate.	
1. 100 1	vit to .	Vegetation - grass and sage.	
. m n i	and . 12	Barometer 5740 ft. Thermometer 90°	
		224th Mile.	
		S. 89° 56' E. on tangent to the parallel.	
	-11000	Over rolling sand hills.	
		Difference between measurements of 80 chs. by two sets	
		of chainmen is 6 lks. Position of middle point by	
		1st set 80.03 chs. By 2nd set 79.97 chs.	
	. cor	The mean of which is	
5760	80.00	North 37 lks. from the tangent.	
		Set an iron pipe 2 ins.diam. 5 ft. long with flanges	
	a some	at the bottom 3 ft. in the ground for 224th mile cor.	
		A brass cap on top of the pipe has raised letters	
		UTAH on N. ARIZ. on S. and 224 M. stamped in the center.	
- 676	a juga	Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6	
about of	Alm Trail	ft. dist. Raised a mound of earth 5 ft. base 2 ft.	
	. min vii	high around the post.	
		Land rolling, sand hills.	
		Soil sandy, alkali, gypsum, 4th rate.	
1927		Vegetation scanty - grass and greasewood.	

ALTITUDE	CHAINS	
	9 . 11 11	Barometer 5760 ft. Thermometer 89°.
Hart MI		Designation of the second seco
	e distribution	225th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Over alkili and gypsum bad lands.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
	met areas	by 1st set 80.05 chs. By 2nd set 79.95 chs.
	ne sou	The mean of which is
5700	80.00	North 49 lks. from the tangent.
Title Bris	A. A.	Set an iron pipe 2 ins, diam. 5 ft, long with flanges
		at the bottom 3 ft. in the ground for 225th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 225 M. stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
		ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		Land, rolling bad lands.
	The second	Soil sand, alkali and gypsum, 4th rate.
		Vegetation scanty - grass and greasewood.
lin cur	of a side	Barometer 5700 ft. Thermometer 87°.
Sed Pal		destro gigo sian della diara citra prose gener pero gare di un disso disso di disso di disso di disso di disso
		226th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Over bad land hills.
THE RESERVE	7.00	On spur, slope N.
	25.00	Foot of hills, bears N. W. and S. E. Enter gypsum
evres.		valley.
	74.00	
		Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5500	80,00	North 62 lks. from the tangent.
		St a sandstone 30x10x6 ins. 20 ins. in the ground
	5700	7.00 25.00 74.00

	2002.		a partition of the man and the same of the
	ALTITUDE	Chains	for 226th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 226 M.on the W. faces.
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		no tak	and 6 ft. dist. Raised a mound of earth 51 ft. base
		ode - in	2½ ft. high east of cor.
			Land rolling.
* (d . a.to Y	Soil, sand, alkali and gypsum, 4th rate.
		q erbeta	Vegetation - scanty,-grass and greasewood.
		. testo	Barometer 5500 ft. Thermometer 85°.
			227th Mile.
2"		and the	S. 89° 54' E. on tangent to the parallel.
		о . п. и	Over gently rolling valley land.
		29.00	Dry gulch, course N. E.
	. xee %c	June 43	Difference between measurements of 80 chs. by two
			sets of chainmen is 2 lks. Position of middle point
			by 1st set 80.01 chs. By 2nd set 79.99 chs.
		.000	The mean of which is
	5350	80.00	North 76 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 227th mile cor.
			A brass cap on top of the pipe has raised letters
		cor.	UTAH on N. ARIZ. on S. and 227. M stamped in the center.
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
			6 ft. dist. and raised a mound of earth 5 ft. base
		u , anto d	and 2 ft. high around the post.
		og orbid	Land gently rolling.
		400	Soil sandy, alkali and gypsum, 4th rate.
			Vegetation scanty - grass and greasewood.
			Barometer 5350 ft. Thermometer 78°.
		地名美国英	June 19th, 1901,
	a un . i	-10 GR. "	Client states prior that there are some dates beautiful.
	Ar In	BAR	228th Mile.
	112h . 17	V . x00	S. 89° 53' E. on tangent to the parallel.

S. 89° 53' E. on tangent to the parallel.

Over rolling land.

	ALTITUDE	Chains 9.50	Dry gulch, course N. E.
		14.00	Same gulch, course S. E.
	1000	17.50	Same gulch, course N. E.
	5300	67.00	Dry bed of alkali creek, 2 chs. wide. Water in holes
			about a mine above, course N. E. Banks about 30 ft.
			high. Ascend.
		.00	Difference between measurements of 80 chs. by two sets
			of chainmen is 12 lks. Position of middle point by
			1st set 80.06 chs. By 2nd set 79.94 chs.
		- Marian	The mean of which is
	5325	80,00	North 92 lks. from the tangent.
		10 . AUG	Set a sandstone 36x13x6 ins. 24 ins. in the ground for
			228th mile cor. marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 228 M. on the W. faces. Raised a
		H. Loren	mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		A STATE OF	Pits impracticable.
		- DE 10	Land rolling.
			Soil sandy, alkáli and gypsum, 4th rate.
		1	Vegetation - grass and greasewood.
	e marry	Mari was	Barometer 5325 ft. Thermometer 70°.
	\$10 mil	MATTER	and the second s
	- CHARLE	of bert	229th Mile.
. 11			S. 89° 53' E. on tangent to the parallel.
	*464	er jour	Over rolling land.
	ananti.	60.25	Dry gulch, course N.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 8 lks. Position of middle point by
			1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5325	80.00	North 110 1ks. from the tangent.
			Set a sandstone 36x10x6 ins. 24 ins. in the ground
			for 229th mile cor. marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 229 M. on the W. faces. Dug pits
	No.		36x36x18 ins. N. S. E. and W. of the cor. 6 ft. dist.
		4	Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high

_	DOCT	DIAME MILIT	2 DEL WEST, THE STATE OF CIAN MILE THE IBERTION OF TRIBUTION
	ALTITUDE	Chains	of horoxy, odd, its add to the total and the same of t
	0407		east of cor.
Į,	titos es		Land rolling.
	19th 10 .1		Soil sandy, alkali and gypsum, 4th rate.
	the or		Vegetation scanty - grass and greasewood.
			Barometer 5325 ft. Thermometer 72°.
			a roy yen a restriction of the second
			230th Mile.
			S. 89° 52' E. on tangent to the parallel.
			Over rolling land.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 8 lks. Position of middle point by 1st
			set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5350	80.00	North 129 lks. from the tangent.
			Set a sandstone 41x14x7 ins. 28 ins. in the ground for
	, breared		230th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 230 M. on the W. faces. Raised a mound
	Marion		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
	on out i		Pits impracticable.
	igh sate		Land rolling.
		- anim	Soil sandy, alkali and gypsum, 4th rate.
			Vegetation scanty - grass and sage.
			Barometer 5350 ft. Thermometer 74°.
	outoff :		Many sort time date date and some date and
	* 401 4		231st Mile.
	urs#1	at took	S. 89° 51' E. on tangent to the parallel.
	remote met		Over rolling land.
	. won	40.50	Dry gulch comes from S. W. Thence down the same.
		51.00	Leave gulch, course N. E.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 4 lks. Position of middle point by
	,		1st set 80.02 chs. By 2nd set 79.98 chs.
			The mean of which is
	5250	80.00	North 150 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges

ALTITUDE	CHAINS	at the bottom 3 ft. in the ground for 231st mile cor.
		A brass cap on top, of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 231 M, stamped in the center.
	1774	Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. Raised a mound of earth 5 ft. base 2 ft. high
		around the post.
		A red butte bears N. 69° 30' E.
		The round tower bears N.77° 38' W.
		Land rolling.
		Soil alkali and gypsum, 4th rate.
	e , ipr	Vegetation - grass and greasewood.
		Barometer 5250. Thermometer 80°.
		232nd Mile.
		S. 89° 51' E. on tangent to the parallel.
hair		Over rolling sand hills.
5150	29.00	Bottom of wash, dry, 2 chs. wide, course N. Ascend.
	56.00	On spur, slope N. 30 ft, high, Descend.
	72.00	Bottom of wash, dry, 2 chs. wide, course N. W. Ascend.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 10 lks. Position of middle point by
		1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5200	80.00	North 172 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 232 mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 232 M. stamped in the center
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5200 ft. Thermometer 80°.
		With a count part was part of the second of

17175		
ALTITUDE	CHAINS	233rd Mile.
		S. 89° 50' E. on tangent to the parallel.
		Ascend over broken land.
125015		Stadia measurement. Angle 11°+ Rod 8.85 double =
2207	-1 -17-20	1770. Constant 96.36 x 1770 = 1705.57 + C. = 1.13 =
		1706.70 ft. = 25.86 chs.
2300	23.00	Foot of wall about 300 ft. high, bears N. and S. Ascend
	25,86	On top of wall, bears N. and S. Ascend gradually.
		Stadia. Angle 2°+ Rod 7.40 double = 1480 ft.
		Constant 99.88 x 1480 = 1478.23 + C = 1.15 = 1479.38
		ft. = 22.41 chs. + 25.86 chs. = 48.27 chs.
5650	48.27	On top of rocky ridge. Descend, bears N. and S.
		Thence by tape measurement.
		Difference between measurements of 31.73 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 31.74 chs. By 2nd set 31.72 chs.
		The mean of which is 31.73 chs. + 48.27 chs. =
5500	80.00	North 196 lks. from the tangent.
1 /h/2 1		Set a sandstone 30x12x8 ins. 20 ins. in the ground for
Mark of		233rd mile cor. marked UTAH on N. 37 N. L. on E. ARIZ.
		on S. and 233 M.on the W. faces. Raised a mound of
		stone 52 ft. base 22 ft. high east of cor.
		Pits impracticable.
briller		Land rolling and broken.
10 -4 -	77 .77	Soil sandy and rocky, 4th rate.
		Vegetation - grass and sage.
ann, 11 5.5		Barometer 5500 ft. Thermometer 80°.
		paire state data have date state state state state state state state state state
		234th Mile.
HOTA		S. 89° 50' E. on tangent to the parallel.
		Descend over rolling land.
	45.00	Wash 30 lks. wide, dry, course N. W. Ascend.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 4 lks. Position of middle point by
		1st set 80.02 chs. By 2nd set 79.98 chs.

The second second second			
	ALTITUDE	Chains	The mean of which is
	5500	80.00	North 221 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	de off	di de,	at the bottom 3 ft. in the ground for the 234th mile
	er, i		cor. A brass cap on top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 234 M. stamped in the center.
	MA A	Service of	Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
	N. Section	THE VIEW AND A STATE OF	Raised a mound of earth 5 ft. base 2 ft. high around
		-	the post.
	To company	- 10.	Land rolling.
		, 300	Soil sandy, 4th rate.
		gran water	Vegetation - grass and sage.
			Barometer 5500 ft. Thermometer 80°.
		BASS ST.	No antique commo sa assegue a nota se o sum
	entar o	A Section	235th Mile.
		The state of	S. 39° 49' E. on tangent to the parallel.
			Ascend over sand hills.
		76.75	On ridge near base of wall, bears N. and S.
	t Armer		Difference between measurements of 30 chs. by two
1	Eth .A.	7.1.1	sets of chainmen is 12 lks. Position of middle point
	No tun		by 1st set 80.06 chs. By 2nd set 79.94 chs.
		0 - 100m	The mean of which is
	5600	80.00	North 247 lks. from the tangent.
			Set a sandstone 33x12x7 ins. 22 ins. in the ground
			for 235th mile cor. Marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 235 M on the W. faces.
			Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
			of cor. Pits impracticable.
			This cor. stands about 6.50 chs. west of perpendicular
		in and	wall about 400 ft. high, at head of little gulch,
			course W.
		in the state of	Land rolling.
1	100	S JOHN T	Soil sandy, 4th rate.
			Vegetation - grass and sage.
			Barometer 5600 ft. Thermometer 70°.
			Market and the second s

.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
ALTITUDE	CHAINS	236th Mile.
	GUEL FIN	S. 89° 48' E. on tangent to the parallel.
i mis	er ands	Ascend.
thirt s	to tor the	As I cannot see on top of the wall from the cor., I
		set back on the tangent 3.25 chs. to the 76.75 ch.
		mark. Thence by stadia. Angle 26°+ Rod 8.53 = 853 ft
		Constant 80.78 x 853 = 689.05 + C. = 1.03 = 690.08 ft.
I diversi	note the	= 10.45 chs 3.25 chs. = 7.20 chs.
d 10 %	6.50	Foot of wall, bears N. and S.
5600	7.20	Stadia point on top of wall, about 375 ft. high, bears
	3	N. and S.
Mary Land	n Waa I	Stadia. Angle 3°+ Rod 9.90 = 990 ft. Constant 99.73
		x 990 = 987.33 + 0 = 1.15 = 988.48 ft. = 14.98 chs. +
		7.20 chs. = 22.18 chs. On top of rocky ridge bears MandS.
6000	22.18	To stadia point. Thence by tape measurement.
		Descend over sand hills.
		Difference between measurements of 57.82 ths. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 57.84 chs. By 2nd set 57.80 chs.
and the		The mean of which is 57.82 chs. + 22.18 chs. =
5900	80.00	North 275 lks. from the tangent.
		Set a sandstone 31x11x6 ins. 21 ins. in the ground
2.0010		for 236th mile cor. Marked UTAH on N. 37 N. L. on E.
94.11 13		ARIZ. on S. and 236 M. on the W. faces. Rug pits
4 nd3 u		36x36x18 ins. N. S. E. and W. of cor. and 6 ft. dist.
market a sa		Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
P. Carlot		of cor.
		Land - rock croppings and sand hills.
1 there are		Soil sandy and rocky, 4th rate.
		Vegetation - grass, sage, scrub cedar and piñon.
-		Barometer 5900 ft. Thermometer 70°.
		Class digits often Arms many strong prince prince black makes many many many. Anny paper
ar the s		237th Mile.
		S. 89° 48' E. on tangent to the parallel.

BOU.	NDARY LIN	WE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	Descend over rolling sand hills and rock croppings,
	Septem !	through scattering scrub cedar and piñon timber.
		Difference between measurements of 80 chs. by two
1	parte or	sets of chainmen is 6 lks. Position of middle point
4.635	a set out	by 1st set 80.03 chs. By 2nd set 79.97 chs.
	NO DOS	The mean of which is
5840	80.00	North 305 lks. from the tangent.
		Set a sandstone 30x10x6 ins. 20 ins. in the ground
		for 237th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 237 M on the W. faces. Dug pits
		36x36x18 ins. N. S. E. and W. of the cor. and 6 ft.
1.00		dist. Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft.
. 1150 1		high east of cor.
		Land rolling.
	- Allendary	Soil rocky and sandy, 4th rate.
		Vegetation - grass, and scattering piñon.
	BARRIE .	Barometer 5840 ft. Thermometer 65°.
		June 20th, 1901.
		June 21st, at 1h 28m A.M. 1.m.t. at the 237th mile
		cor, I observe Polaris at eastern elongation in ac-
		cordance with instructions in the manual, and mark the
		line so determined on a plug driven in the ground
		north of my station. At 6h 40m A.M. I lay off the
		azimuth of Bolaris 1° 32' to the west and mark the true
		meridian so determined on a plug driven in the ground
		north of my station. The magnetic bearing of the
		said meridian is N. 14° 54' W. This reduced by the
		table page 100 of the manual, gives the mean magnetic
		declination 14° 50' E. I lay off an angle of 90°
	COLUMN TO THE REAL PROPERTY.	from the meridian from the north to the east for the
		tangent to the parallel.

The instrument was placed in perfect adjustment previous to taking these observations, and the

ALTITUDE	Chains	mean of four sights was taken with the telescope
		reversed at each sight.
		I compare the steel tapes with the standard and
		find them of correct length.
mi —		238th Mile.
	_ (East on tangent to the parallel.
		Descend over rolling sand hills and rock croppings.
	- 0	Difference between measurements of 80 chs. by two sets
		of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5730	80,00	North .76 of lk. from the tangent.
		Set a sandstone 40x17x6 ins. on bare rock for 238th
		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 238 M on W. faces. Raised a mound of stone
	-11-2	$5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high around the cor. Raised a
l ger		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		A cedar tree 10 ins. diam. bears S. 24° 57' E. 108
		lks. dist. marked ARIZ. 238 M. B.T.
The second		No other trees within limits suitable for bearing
ala i	4 1	trees.
		Land rolling, sand hills.
panto =		Soil rocky and sandy, 4th rate.
SW T		Vegetation - grass, sage and scattering cedar trees.
		Barometer 5730 ft. Thermometer 60°.
	-	
		239th Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend over rolling sand hills and rock croppings.
	57.00	Point of spur, slope S. Descend more rapidly.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.

ALTITUDE	Chains	The mean of which is	
5650	80.00	North 3 lks. from the tangent.	
No.		Set an iron pipe 2 ins. diam, 5 ft, long with flanges	
		at the bottom on bare rock for 239th mile cor. A	
		brass cap on top of the pipe has raised letters UTAH	
		on N. ARIZ. on S. and 239 M. stamped in the center.	
. cijich :	trees, inc.	Raised a mound of stone 6 ft. base 3 ft. high around	
-	of Late	the post. Pits impracticable	
***		Land rolling.	
		Soil rocky and sandy, 4th rate.	
		Vegetation - grass, sage and scattering cedar.	
		Barometer 5650 ft. Thermometer 66°.	
		240th Mile.	
		S. 89° 59' E. on tangent to the parallel.	
		Descend over bare sandstone, along S. W. slope.	
* ***		Difference between measurements of 80 chs. by two	
		sets of chainmen is 12 lks. Position of middle point	
		by 1st set 80.06 chs. By 2nd set 79.94 chs.	
		The mean of which is	
5450	80.00	North 7 lks. from the tangent.	
		Set a sandstone 33xl0x7 ins. on bare rock for 240th	
		mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ. on S.	
		and 240 M.on the W. faces. Raised a mound of stone	
		5 ft. base 2 ft, high around the cor. Raised a mound	
		of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.	
		Pits impracticable.	
		Land rough and broken.	
		Soil rocky, 4th rate.	
		Vegetation - a few scmib cedars in crevices of the	
		rocks.	
		Barometer 5450 ft. Thermometer 75°.	
		241st Mile.	
		S. 89° 58' E. on tangent to the parallel.	
		December of the base make	

Descend over bare rocks.

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	ALTITUDE	Chains	THE REPORT OF THE PROPERTY OF
		1.65	On rock bluff, bears N. E. and S. W. Descend.
			Stadia measurement. Angle 4°+ Rod 9.46 double =
			1892. Constant 99.51 x 1892 = 1882.73 + C. = 1.15 =
			1883.88 ft. = 28.54 chs. + 1.65 chs. = 30.19 chs.
	5200	15.00	Bottom of Chin Lee Cañon, 250 ft. below last cor.
			Stream of clear, good water, 5 lks. wide, course N.E.
			Ascend over rocks.
	5450	30.19	Stadia point on top of bare rock point, about 300 ft.
	, -		above bottom of canon, slope N. The forks of Chin
			Lee creek, about 25 chs. north.
			Stadia. Level. Rod 7.25 = 725 ft. + C. = 1.15 =
	nek . t .		726.15 = 11.00 chs. + 30.19 chs. = 41.19 chs.
	5450	41.19	On point of rocks, sloping N. Stadia. Angle 150-
			Rod 12.67 = 1267 ft. Constant 93.30 x 1267 = 1182.11
	0 15		+ C = 1.11 = 1183.22 ft. = 17.93 chs. + 41.19 chs. =
	with the second		59.12 chs.
		51.00	Foot of wall, about 300 ft. high, bears N. and S.
		59.12	On bench in main cañon, bears N. and S. Stadia.
			Angle 13°+ Rod 13.00 = 1300 ft. Constant 94.94 x
	faire, man		1300 = 1234.22 + C. = 1.12 = 1235.34 ft. = 18.72 chs.
	h un.	1.2 418	+ 59.12 chs. = 77.84 chs.
	5200	68.50	Bottom of cañon, main fork of Chin Lee creek. Stream
			10 lks. wide, course N. W. Indian gardens about 1
			mile S. Ascend
		75.00	Foot of rock wall of canon, bears S. and N. W. Ascend.
		77.84	Stadia point on west slope of cañon wall. Thence by
			tape measurement.
	55 2 0	80.00	North 12 lks. from the tangent.
			Set a sandstone 33x12x7 ins. on bare rock for 241st
			mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
			on S. and 241 M on the W. faces. Raised a mound of
			stone 5 ft. base 2 ft. high around the cor. Raised a
			mound of stone 52 ft. base 22 ft. high east of cor.
			Pits impracticable.

	500		THE DATE AND EASILY OF COURSE AND ADDRESS OF THE COURSE
	ALTITUD	E CHAINS	Land broken and rocky.
		. Imposes	Soil rocky and sandy, 4th rate.
		droh Ar.	Vegetation - grass and sage, and a little cottonwood
		4 44	and willow along the Chin Lee Creek.
		90.75	Barometer 5520 ft. Thermometer 80°.
	. 70	of Frank	
		colon and	242nd Mile.
			S. 89° 57' E. on tangent to the parallel.
		and a	Ascend over bare rock.
	5550	4.20	Top of bluff, east wall of Chin Lee cañon, bears N.W.
			and S. E. Thence over rolling hills.
	5350	20.00	Top of ridge, bears N. Eand S. W. Deseend
		35.00	Bottom of dry ravine, 150 ft. deep, course S. W. Ascend
	5450	56.50	On top of spur, bare sandstone, slope S. W. Thence
			along S. W. slope.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 16 lks. Position of middle point by
			1st set 80.08 chs. By 2nd set 79.92 chs.
			The mean of which is
	5450	80.00	North 19 lks. from the tangent.
			Set a sandstone 32x14x7 ins. 21 ins. in the ground
			for 242nd mile cor. Marked UTAH on N. 37 N. L. on E.
1			ARIZ. on S. and 242 M. on the W. faces. Raised a
			mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
			Pits impracticable.
			Land rolling and rocky.
			Soil rocky and sandy, 4th rate.
			Vegetation - grass and sage.
			Barometer 5450 ft. Thermometer 85°.
			White first quark first game state after some office state of the stat
			243rd Mile.
		1	S. 89° 57' E. on tangent to the parallel.
			Over rolling hills.

ALTITUDE	CHAINS	Difference between measurements of 80 chs. by two sets
		of chainmen is 10 lks. Position of middle point by
		1st set 80,05 chs. By 2nd set 79.95 chs.
		The mean of which is
5600	80.00	North 27 lks. from the tangent.
		Set a sandstone 31x14x8 ins. on bare rock for the
	-	243rd mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 243 M on the W. faces. Raised a
	-	mound of stone 5 ft. base 2 ft. high around the cor.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high
Her v	-	east of cor. Pits impracticable.
		Land rolling sand hills and rock croppings.
		Soil rocky and sandy, 4th rate.
		Vegetation - grass and sage.
1		Barometer 5600 ft. Thermometer 86°.
		gas, note that fine time man now have been time time.
		244th Mile.
		S. 89° 56! E. on tangent to the parallel.
		Ascend over rolling hills.
	16,00	Top of spur, slope S. Thence descend along south
		slope.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 8 lks. Position of middle point by
		1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5625	80.00	North 37 lks. from the tangent.
		Set an iron pipe 2 ins. diam 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 244th mile cor.
Total Par		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 244 M. stamped in the center
		Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
		dist. Raised a mound of earth 5 ft. base 2 ft. high
		around the post.

ALTITUDE	CHAINS	Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5625 ft. Thermometer 88°.
		245th Mile.
		S. 89° 55' E. on tangent to the parallel.
	Sales 1	Over nearly level land.
	40.00	Old Indian trail, bears N. E. and S. W.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is
5560	80.00	North 49 lks. from the tangent.
		Set a sandstone 30x8x8 ins. 20 ins. in the ground for
		245th mile cor. Marked UTAH on N. 37 N. L. on E. ARIZ.
		on S. and 245 M on the W. faces. Raised a mound of
	1 400	stone 5 ft. base 2 ft. high east of cor.
		Pits impracticable.
		Land nearly level.
		Soil sandy and gypsum, 4th rate.
		Vegetation - grass and greasewood.
		Barometer 5560 ft. Thermometer 78°.
		This cor. stands at foot of oblong hill, that bears
		N. W. and S. E.
		June 21, 1901.
H. STOR		I examine and adjust the transit, and compare the steel
Brack		tapes with the standard, and find them of correct
		length. 246th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Ascend.
	10.00	Top of hill near N. end, bears S. E. about a mile.
		Descend.
A TRANS		

	ALTITU	DE CHAINS	The sea or the season of the s
	tion in	19.85	Dry gulch, course N. W. Ascend.
	ind#	39.72	Point of spur, slope N. W. Descend.
	mnd ,	70.00	Dry gulch, course S. E. about 175 ft. below top of
			hill. Ascend.
			Difference between measurements of 80 chs. by two sets
			of chainmen is 14 lks. Position of middle point by
			1st set 80.07 chs. By 2nd set 79.93 chs.
			The mean of which is
	5525	80.00	North 62 1ks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		. te	at the bottom 3 ft. in the ground for 246th mile cor.
		40 00	A brass cap on top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 246 M. stamped in the cen-
			ter. Dug pits 36x36x18 ins. N. S. E. and W. of the
		Phanek	cor. 6 ft. dist. Raised a mound of earth 5 ft. base
	. 13	Olice treatment	2 ft. high around the post.
	. 17.1	done with	Land rolling and broken.
		tid mile	Soil sandy and rocky, 4th rate.
21/1		niu to	Vegetation - grass and sage.
	. "	17 60,00	Barometer 5525 ft. Thermometer 80°.
			comment from these dates are not transported to the contract of the contract o
			247th Mile.
		o he gan	S. 89° 54' E. on tangent to the parallel.
10		C. HTTP & G.	Over rolling land.
		58.00	Dry gulch, course S. Ascend.
1		61.00	Top of spur, slope S. Indian trail, bears N.E. and
	. YES	10 20	S. W. Descend.
	r i en i	62.30	Dry gulch, course S. W. Ascend.
			Difference between measurements of 80 chs. by two
. 1	de l'Alle	D DE DE	sets of chainmen is 10 lks. Position of middle point
			by 1st set 80.05 chs. By 2nd set 79.95 chs.
197			The mean of which is
8	5640	80.00	North 76 lks. from the tangent.
			Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	April		at the bottom 3 ft. in the ground for 247th mile cor.

	and the same of th		
	ALTITUDE	Chains	A brass cap on top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 247 M. stamped in the cen-
			ter. Dug pits 36x36x18 ins. N. S. E. and W. of the
	tie di		cor. 6 ft. dist. Raised a mound of earth 5 ft. base
			2 ft. high around the post.
		M. Har	Land rolling, sand hills.
	328 300	THE STATE OF	Soil sandy, 4th rate.
			Vegetation - grass, sage and greasewood.
			Barometer 5640 ft. Thermometer 85°.
			The state of the s
			248th Mile.
			S. 89° 53' E. on tangent to the parallel.
		THE NEW	Ascend over rolling hills.
	Parent of the same	8,00	Top of spur, slopes S. W. Descend.
		9.00	Dry gulch, course S. W. Ascend.
		30.00	Foot of bluff, bears N. E. and S. W. Ascend.
		56,50	Top of bluff, bears N. E. and S. W. about 200 ft.
			above last cor. Indian trail bears N.E. and S.W.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 12 lks. Position of middle point
			by 1st set is 80.06 chs. By 2nd set 79.94 chs.
			The mean of which is
	5825	80.00	North 92 1ks. from the tangent.
			Set an iron pipe 2 ins. diam, 5 ft. long with flanges
			at the bottom 3 ft. in the ground for 248th mile cor.
			A brass cap on top of the pipe has raised letters
			UTAH on N. ARIZ. on S. and 248 M stamped in the center
			Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
			6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
			high around the post.
			A cluster of volcanic pinnacles, called El Capitan,
			bears N. 22° 30' E.
			A round peak in low range to the south bears S. 16° 26'
-			E.
-			Land rolling.
1			

ALTITUDE	CHAINS	Soil sandy, 4th rate.
country to	ri "nuseri	Vegetation - grass and sage.
totet ë	TABLE TO	Barometer 5825 ft. Thermometer 88°.
	- artin tha	ov. son and was pro-
The state of the s		249th Mile.
		S. 89° 53' E. on tangent to the parallel.
eks baai	intoth	Over gently rolling hills.
74	63,00	Top of ridge, bears N. and S.
LADIST	seety b	Difference between measurements of 80 chs. by two
dron .	nte es an	sets of chainmen is 4 lks. Position of middle point
	.07	by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5830	80.00	North 110 1ks. from the tangent.
1,10 19	OTE HO	Set an iron pipe 2 ins. diam. 5 ft. long with flanges
one 70	Circuit, and	at the bottom 3 ft. in the ground for 249th mile cor.
-		A brass cap on top of the pipe has raised letters
elsty o	cotorma	UTAH on N. ARIZ. on S. and 249 M stamped in the center.
enotio	er tout a	Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
run nil	a menega	6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
in particular	ann Jigue	high around the post.
13 77 9	anthoping	El Capitan bears N. 11º 10' W.
SOLS	Many to	Turret butte, bears N. 30° 08' E.
	.000	A round peak in low range to the south bears S. 6°
r 100 v	alminia.	38' W.
	adau ium	Land rolling.
. mate		Soil sandy, 4th rate.
OCT .		Vegetation - grass and sage.
689.4		Barometer 5830 ft. Thermometer 92°!
.8 1	NO WALL	gang cont gand dilat dans from both data data data star and data star data.
III.	DALBING	250th Mile.
. 0000		S. 89° 52' E. on tangent to the parallel.
EVER	Commission .	Descend.
	19.50	Reef of black volcanic rock bears N. W. and S. E.
THOR. I		Descend.
	25.00	Foot of ridge, bears N. W. and S. E. Thence over
	L. W. Controll	

ALTITUDE	CHAINS	sand hills.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5700	80.00	North 129 1ks. from the tangent.
		Point for 250th mile cor. falls in drifting sand hills.
		The ground too unstable to set up the temporary
-016	E .eire	astronomical observatory, therefore, I place the pier
PROPERTY.	PRI TO	for the zenith telescope at a point 86,00 chs. north
	. 199	on firmer ground, east of a rocky butte.
		June 22nd, 1901.
		June 25th, 1901, we make the latitude of the temporary
		observatory by astronomical observation 37° 00' 54.6"
		North latitude, which equals 83.64 chs. north of the
CO WA		37th parallel.
		The point for our 250th mile cor. is therefore within
		the limits of 3" of arc allowed in the instructions.
		June 26th, 1901, at the point for the 250th mile cor.
		at 1h 8m A.M. 1.m.t. I observe Polaris at eastern
		elongation in accordance with the instructions in the
		manual, and mark the line so determined on a plug
PR LE	AND STATE	driven in the ground north of my station.
		At 7h A.M. I lay off the azimuth of Polaris 1° 32' to
		the west and mark the true meridian thus determined
		on a plug driven in the ground north of my station.
		The magnetic bearing of the said meridian is N. 15°
Luch .		04 W. This reduced by the table page 100 of the
		manual gives mean magnetic declination 15° 00' E.
		I lay off an angle of 90° from this meridian from the
		north to, the east for the tangent to the parallel.
		In all the observations great care is taken to have the
		transit in perfect adjustment. The mean of four
		sights is taken with the telescope reversed at each
	Parent I	sight.

DUUNI	JANI LINL	DETWIEN THE STATE OF CTAIL AND THE IDENTITION OF ARELOVA.
ALTITUDE	Chains	I compare the steel tapes with the standard and find
Chi.	127.00	them of correct length.
	74 151	At the point for the 250th mile cor.
		I set a sandstone shaft 6 ft. long 12 ins. broad and
		12 ins, thick, dressed square 12 ins. down from the
= V		top, 3 ft. in the ground, for the 6th Astronomical
		Monument, marked with letters 12 ins. square deeply
		graven in the stone, UTAH on N. 37 N. L. on E.
		ARIZONA on S. and 250 M on the W. faces.
	- 459	Raised a mound of stone 5 ft. base 2 ft. highharound
		the shaft, and dug pits 36x36x18 ins. N. S. E. and W.
/ pn mil	end .one	of the shaft and 6 ft. dist.
		Turret butte bears N. 16° 14' E. about 4 miles dist.
		A butte of trap rock about 100 ft, high bears forth
		88.00 chs. dist.
al yours	July , good	El Capitan bears N 40° W. about 2 miles dist.
tree of	until heres ass	A sharp peak bears S. 27° 18' W. about 4 miles dist.
GYCEL.	rof beni	Highest peak of Carriso mountains bears S. 640 12' E.
Sparing in	A AL Des	about 16 miles dist.
9 x00	MAT TO	Land rolling sand hills.
- 27 0	o made	Soil nearly pure sand, 4th rate.
5000	E BOUNTS!	Vegetation - grass and greasewood.
		Barometer 5700 ft. Thermometer 85°.
	* 108 J	
		251st Mile.
		East on tangent to the parallel.
		Ascend over rolling sand hills.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 8 lks. Position of middle point
		by 1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
5750	80.00	North .76 of a lk. from the tangent.
1		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
Jan Land		at the bottom 3 ft. in the ground for 251st mile cor.
		A brass cap on top of the pipe has raised letters

UTAH on N. ARIZ. on S. and 251 M. stamped in the

		AND THE RESIDENCE OF THE SECOND SECTION OF A SECOND SECOND SECTION OF THE SECOND SECON
ALTITUDE	CHAINS	center. Dug pits 36x36x18 ins. N. S. E. and W. of
		the cor. 6 ft. dist. Raised a mound of earth 5 ft.
		base 2 ft. high around the post.
-		Land rolling sand hills,
		Soil nearly pure sand, 4th rate.
		Vegetation - grass and sage.
		Barometer 5750 ft. Thermometer 90°.
		252nd Mile.
	Listin Con	S. 89° 59' E. on tangent to the parallel.
		Ascend over sand hills,
h.i.e.		Difference between measurements of 80 chs. by two sets
. TOIT		of chainmen is nothing.
Tron		The mean is
5840	80.00	North 3 lks, from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long, with flanges
	policies in	at the bottom 3 ft. in the ground for 252nd mile cor.
	-	A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 252 M stamped in the center
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor 6
		ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		El Capitan bears N. 64° 35' W.
		Peak on Carriso mountains bears S. 61° 50' E.
		Land rolling sand hills.
		Soil sandy, 4th rate.
		Vegetation - grass, sage and greasewood.
		Barometer 5840 ft. Thermometer 95°.
haning.		These paper claim shows show shown shown shown shown shown shown shown
		253rd Mile.
		S. 89°,59' E. on tangent to the parallel.
		Ascend over rolling sand hills.
5950	77,00	Top of ridge, bears N. and S. Descend.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
	THE RESERVE AND ADDRESS OF THE PARTY OF THE	

ALTITU	DE CHAINS	The mean of which is
589	0 80.00	North 7 lks. from the tangent.
		Set an iron pipe 3 ins. diam. 5 ft. long with falenges
		at the bottom 3 ft. in the ground for 253rd mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 253 M. stamped in the center
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
		ft. dist. Raised a mound of earth 5 ft, base 2 ft.
 		high around the post.
6-		Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass, sage and greasewood.
		Barometer 5890 ft. Thermometer 96°.
brief .	, -	Variable of the second
		254th Mile.
	101 473	S. 89° 58' E. on tangent to the parallel.
		Descend gradually over rolling sand hills.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
		The mean of which is
580	00.08	
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
	e tanta ,	at the bottom 3 ft. in the ground for 254th Mile cor.
, 0.1	The same and	A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 254 M stamped in the center
	ill of all	Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
- 20 1	n hinid	ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		Land rolling sand hills and rock croppings.
		Soil sandy, 4th rate.
		Vegetation - grass, sage and greasewood,
0		Barometer 5800 ft. Thermometer 980.
,		

	~	
ALTITUDE	CHAINS	255th Mile.
		S. 89° 57' E, on tangent to the parallel.
an area (No artist	Over gently rolling land.
A SPECIAL	64.00	
		Difference between measurements of 80 chs. by two sets
		of chainmen is nothing.
9 4500		The mean is
5750	80,00	North 19 1ks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 255th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ, on S. and 255 M. stamped in the con-
		ter. Dug pits 36x36x18 ins. N. S. E. and W. of the
		cor. 6 ft. dist. Raised a mound of earth 5 ft. base
		2 ft. high around the post.
		A peak of the carriso mountains bears S 570 10' E.
		Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5750 ft. Thermometer 1000.
		256th Mile.
		S. 89° 57' E. on tangent to the parallel.
		Ascend gradually through a sandy valley, about 20 chs.
		north to base of rock ridge, about 4 miles south to
		foot of mountains.
		Difference between measurements of 80 chs. by two
		, sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
5810	90 00	The mean of which is
9910	80.00	North 27 lks. from the tangent.
		Set an iron pipe 2 ins, diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 256th mile cor.
	The Chief of the Land	A brass cap on top of the pipe has raised letters

ALTITUDE	CHAINS	UTAH on N. ARIZ. on S. and 256 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
		ft. dist. Raised a mound of earth 5 ft. base 2 ft.
ann owa	with a pule	high around the post.
- 'yd' he	tog of hh	Land gently rolling.
		Soil sandy, 4th rate.
		Vegetation - grass, sage and greasewood:
		Barometer 5810 ft. Thermometer 100°.
Manua Ch	rid les put	of the amount of the first of the second of
- 700 00	tat-actuar	257th Mile.
.07.0	ster hea	S. 89° 56' E. on tangent to the parallel.
te sites, p	të në ng	Ascend over rolling land.
ban . To	25.00	Point of rocks, slopes S. Descend.
. 12 6 0	30.00	Hollow, drains S. E. Ascenda
	46.00	Top of sandstone croppings, about 50 ft. high, bears
		N. W. and S. E. Descend.
1215	90.00	Difference between measurements of 80 chs. by two
		sets of chainmen is 6 lks. Position of middle point
		by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5900	80.00	North 37 lks. from the tangent.
		Set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 257th mile cor. marked UTAH on N. 37 N. L. on E.
DES OF		ARIZ. on S. and 257 M. on W. faces. Dugs pits
		36x36x18 ins. N. S. E. and W. of the corcefft.dist.
		Raised a mound of earth 51 ft. base 21 ft. high east
		of cor.
1000		Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5900 ft. Thermometer 98°.
	- MARINE	

ALTITUDE	Chains	258th Mile.
		S. 89° 55' E. on tangent to the parallel.
		Over gently rolling land, sloping south.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 4 lks. Position of middle point by
		1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5950	80.00	North 49 lks, from the tangent
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 258th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 258 M stamped in the center.
		Du pits 36x36x18 ins. N. S. E. and W. of the cor. and
		6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		Land rolling.
		Soil sandy, 4th rate.
tabou		Vegetation - grass, sage and greasewood.
		Barometer 5950 ft. Thermometer 97°.
		Company and party and party and party and party.
		259th Mile.
2000		S. 89° 55' E. on tangent to the parallel.
4 24		Ascend gradually over sand hills.
		Difference between measurements of 80 chs. by two sets
Property and the second		of chainmen is 2 lks. Position of middle point by
		1st set 80.01 chs. By 2nd set 79,99 chs.
		The mean of which is
6000	80,00	North 62 lks. from the tangent.
		Set a sandstone 36x12x6 ins. 24 ins. in the ground
		for 259th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 259 M on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.

ALTITUDE	CHAINS	Land rolling.
of syner association		Soil sandy, 4th rate.
		Vegetation -, grass and sage.
0.0		Barometer 6000 ft. Thermometer 95°.
5)840		
		260th Mide.
		S. 89° 54' E. on tangent to the parallel.
	, at time	Ascend.
	2.00	Foot of bare rock, sloping W., bears N. W. and S.E.
		Ascend.
100	7.00	Top of rocky ridge, bears N. W. and S. E. Ascend
		over sand and gravel ridges.
	valued Table	Difference between measurements of 80 chs. by two sets
	and the second	of chainmen is 8 lks. Position of middle point by
	.n	1st set 80.04 chs. By 2nd set 79.96 chs.
		The mean of which is
620	0 80.00	North 76 lks. from the tangent.
Wit Wit	ero a oute	Set a sandstone 30x10x6 ins. 20 ins. in the ground
.0 .0	a a ire	for 260th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 260 M on W. faces. Raised a mound of
4.77	01 1013 70	stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
44	and the	Pits impracticable.
		Land rolling.
1	140 006	Soil sandy and stony, 4th rate.
		Vegetation - grass and sage.
		Barometer 6200 ft. Thermometer 80°.
4,	and the s	June 26th, 1901.
		and produced data data data data data data data da
		I examine the adjustments of the transit, and compare
	- 76	the steel tape with the standard, and find all correct
		261st Mile.
		S. 89° 53' E. on tangent to the parallel.
		Ascend.
	6.60	Top of ridge bears N. and S. W. Descend.

DUCI	TEMET HI	TO DET WEEK THE STATE OF CLAIR AND THE TERRITORY OF ARIZONA.
ALTITUDE	CHAINS	
		About 1 ch. ahead a dry gulch, course S. W. About
		3 chs. ahead, foot of a great wall of rocks, bears N.
		and S. about 400 ft. high. Impassable on this line.
		From this point I run south on an offset line 71.00
		chs. to avoid the cliffs. Thence S. 89° 53' E. on
		offset line 71.00 chs. south of the tangent and
		parallel with it.
	40.00	South end of wall, dry gulch, course south.
	70.00	Set back north 71,00 chs, to the tangent. Thence
		S. 89° 53' E. on tangent to the parallel.
	100	25.00 chs. back west to foot of wall, bears N. and
		S. E.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 12 1ks. Position of middle point by
		1st set 80.06 chs. By 2nd set 79.94 chs.
		The mean of which is
5950	80.00	North 92 lks. from the tangent.
		Set a sandstone 32x10x7 ins. 21 ins. in the ground
		for 261st mile cor, marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 261 M on the W. faces.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		6 ft. dist. Raised a mound of earth 5 ft. base 2 ft.
		ft. high east of cor.
		A peak of the Carriso mountains bears S. 42° 47' E.
		Land broken and rocky.
		Soil sandy and stony, 4th rate.
		Vegetation - grass, sage and scrub cedar on top of
		rocks.
		Barometer 5950 ft. Thermometer 73°.
or many or a		differ som was dated signed made and some more stated made stated made and some stated made
		262nd Mile.
		S. 89° 53' E. on tangent to the parallel.
		Descend over rolling sand hills.
	74,00	Bottom of wash, dry, 25 lks. wide, course N. E. Ascend

 -		
ALTITUDE	CHAINS	Difference between measurements of 80 chs. by two
		sets of chainmen is 4 lks. Position of middle point
ri haron		by 1st set 80.02 chs. By 2nd set 79.98 chs.
neixe i		The mean of whichmis
5840	80.00	North 110 1ks. from the tangent.
		Set an iron pipe 2 ins. diam, 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 262nd mile cor.
	. 10	A brass cap on top of the pipe has raised letters
1		UTAH on N. ARIZ. on S. and 262 M. stamped in the center
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
		ft. dist. Raised a mound of earth 5 ft. base 2 ft.
OW	yd , arti	high around the post.
anting e	ranku m	Land rolling.
	. ano. Bi	Soil sandy, 4th rate.
		Vegetation - grass, sage and greasewood.
		Barometer 5840 ft. Thermometer 80°.
nes car	arku m	
. Ton el	am admin	263rd Mile.
1753	almi ber	S. 89° 53' E. on tangent to the parallel.
(a.15 C	r rows	Ascend over sand hills, along N. slope.
20.0	Tup . T	Difference between measurements of 80 chs. by two
1 1/377	6 To The	sets of chainmen is 10 lks. Position of middle point
	. 750	by 1st set 80.05 chs. By 2nd set 79.95 chs.
. W. 74	B 4137,1	The mean of which is.
5800	80.00	North 129 lks, from the tangent.
1997 3.3.1		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 263rd mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 263 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor. 6
		ft. dist. And raised a mound of earth 5 ft. base 2 ft.
		high around the post.
		Land rolling.
		Soil sandy, 4th rate.

ALTITUDE	CHAINS	Vegetation - grass and greasewood.
terbarr		Barometer 5800 ft. Thermometer 85°.
	, mate	This cor. stands on north slope, about 20 chs. south
		to the foot of cliffs, about 300 ft. high, that extend
		about $\frac{1}{4}$ mile west and $3/4$ mile east.
neg.ter		
, tob as	bre brents	,264th Mile.
1	SERE LEON	S. 89° 51' E. on tangent to the parallel.
	The state of	Ascend over sand hills along N. slope.
n . 100	10.00	Top of spur, slope N. Descend.
1.75	71.00	Bottom of wash, dry, course N. E.
		Difference between measurements of 80 chs. by two
		sets of chainmen is 10 lks. Position of middle point
		by 1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5875	80.00	North 150 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom 3 ft. in the ground for 264th mile cor.
	1	A brass cap on top of the pipe has raised letters
		UTAH on the N. ARIZ. on S. and 264 M. stamped in the
	PHILIP.	center. Dug pits 36x36x18 ins. N. S. E. and W. of
1/12/19	COLUMN IN	the cor. and 6 ft. dist. Raised a mound of earth
	James !	5 ft. base and 2 ft. high around the post.
		A peak of the Carriso mountains bears S. 31° 54' E.
		N. W. cor. rock bluff, bears S. 27° E' about 1 mile
	1 m 2 m	dist.
Catherine.	har hara	Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and greasewood.
B (4.90)		Barometer 5875. Thermometer 88°.
		265th Mile.
		S. 89° 51' E. on tangent to the parallel.
		Over gently rolling land.
		The state of the s

ALTITUDE	CHAINS	Australian Chaten
490		Difference between measurements of 80 chs. by two sets
		of chainmen is 4 lks. Position of middle point
		by 1st set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5800	80.00	North 172 1ks. from the tangent.
		Set a sandstone 30x18x6 ins. on bare rock for 265th
and day	yd Lodo	mile cor, marked UTAH on N. 37 N. L. on E. ARIZ. on
		S. and 265 M. on W. faces. Raised a mound of stone
		5 ft. base and 2 ft. high around the cor. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
nergha C	thing which	Pits impracticable.
. 11111	to ampa	A peak of the Carriso mountains bears S. 27° 30'E.
Yerr	for ben	A low butte bears S. 56° 42' E.
ale ime i	C nt he	Land rolling.
. 1.00	-Marko	Soil sandy, 3rd rate.
- engel	. H B III	Vegetation - grass and sage.
		Barometer 5800 ft. Thermometer 92°.
	. E. FER	
	T. ILEA	266th Mile.
7 - 18		S. 89° 50' E. on tangent to the parallel.
	- V 141a	Over nearly level land.
		Difference between measurement of 80 chs. by two
		sets of chairmen is 2 lks. Position of middle point
		by 1st set 80.01 chs. By 2nd set 79.99 chs.
	,	The mean of which is
5725	80,00	North 196 lks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
		at the bottom, 3 ft. in the ground, for 266th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 266 M. stamped in the center
dien con	- 11.50	Dug pits 36x36x18 ins. N. S. E. and W. of cor. 6 ft.
1-1 10	I Contractor	dist. Raised a mound of earth 5 ft. base 2 ft. high
		around the post.
		Land nearly level.
		Soil sandy, 3rd rate

ALTITUDE	CHAINS	
1000	100	Vegetation - grass and sage.
	England.	Barometer 5725 ft. Thermometer 98°.
	SEARCH !	
		267th Mile.
		S. 89° 49' E. on tangent to the parallel.
et an	1 2000 - 10	Over nearly level land.
To the Ki		Difference between measurements of 80 chs. by two sets
piron.		of chainmen is nothing.
		The mean is
5750	80.00	North 221 1ks. from the tangent.
		Set an iron pipe 2 ins. diam. 5 ft. long with flanges
-	de la constitución de la constit	at the bottom 3 ft. in the ground for 267th mile cor.
		A brass cap on top of the pipe has raised letters
		UTAH on N. ARIZ. on S. and 267 M stamped in the center.
		Dug pits 36x36x18 ins. N. S. E. and W. of the cor.
		and 6 ft. dist. Raised a mound of earth 5 ft. base
		and 2 ft, high around the post.
		Course down Arido creek bottom, N. 32º 25' E.
		Peak of the Carriso mountains bears \$170 37' E.
		Top of low butte bears S. 33° 15' E.
	1	N. W. Cor. of rock bluff bears S. 76° 45' W.
	+4-0	Land nearly level.
- Substit		Soil sandy, 3rd rate.
	, and	Vegetation - grass and sage.
		Barometer 5750 ft. Thermometer 100°.
		Could write found and some going comp
mar Salar	This or	268th Mile.
non des	direct of	S. 89° 49' E. on tangent to the parallel.
-	a that we	Ascend gradually,
The state of	78.50	Top of spur, slope N.
	A STATE OF THE PARTY OF THE PAR	Difference between measurements of 80 chs. by two sets
		of chainmen is 4 lks. Position of middle point by 1st
		set 80.02 chs. By 2nd set 79.98 chs.
		The mean of which is
5800	80.00	North 247 lks. from the tangent

ALTITUDE	CHAINS	Set a sandstone 31x20x6 ins. 21 ins. in the ground
, 150.61	antula a	for 268th mile cor. Marked UTAH on N. 37 N. L. on E.
hare	Lucrense	ARIZ. on S. and 268 M on the W. faces. Dug pits
ond :	ne v.bal	36x36x18 ins. N. S. E. and W. of the cor. 6 ft. dist.
		Raised a mound of earth $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
PRO OF I	THEOR S	of cor.
12,000	O TUMES OF	Land nearly level.
	Principal	Soil sandy, 3rd rate.
- Property (s)		Vegetation - grass and sage.
0148		Barometer 5800 ft. Thermometer 90°.
0000		Augentinus novige francisco de la companya del companya del companya de la compan
11.0-025		269th Mile.
BILLS OF		S. 89° 48' E. on tangent to the parallel.
1,144		Over rolling land.
	20.00	Dry gulch, course N. Ascend.
TOLIO INVI	un america	Difference between measurements of 80 chs. by two sets
		of chainmen is 10 lks. Position of middle point by
1000	nelman	1st set 80.05 chs. By 2nd set 79.95 chs.
		The mean of which is
5875	80.00	North 275 lks. from the tangent.
		Set a sandstone 30x10x6 ins. 20 ins. in the ground
		for 269th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 269 M on the W. faces. Dug pits
		36x36x18 ins. N. S. E. and W. of cor. 6 ft. dist.
		Raised a mound of $earth$ $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
Province of		of cor.
		Carriso peak bears S 6° 00' E.
		Low butte bears S. 11° W.
		Land rolling.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5875 ft. Thermometer 83°.
-		
		June 27th, 1901.

ALTITUDI	CHAINS	June 28th, 1901, at 1h 00m A.M. 1.m.t. at the 269th
		mile cor., I observe Polaris at eastern elongation,
		in accordance with instructions in the manual, and
		mark the line so determined on a plug driven in the
		ground north of my station.
		At 6h 45m A.M. I lay off the azimuth of Polaris 10 32'
		to the west, and mark the true meridian thus determin-
		ed on a plug driven in the ground 10 chs, north of
		my station. The magnetic bearing of the said meri-
		dian is N. 15° 02' W. This reduced by the table
		page 100 of the manual gives the mean magnetic decli-
		nation 14° 58' E. I lay off from this meridian an
		angle of 90° from the north to the east for the tangent
		to the parallel. In all these observations the mean
		of four sights is taken, with the telescope reversed
de ou		at each sight, the transit being in perfect adjustment.
		I compare the steel tape with the standard and find
		them to be of correct length.
		270th Mile.
		East on tangent to the parallel.
		Ascend over rolling land.
5950	57.00	Dry gulch, course N. W. Foot of rocky butte bears N.W.
		and S. E. Ascend.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 14 lks. Position of middle point by
		1st set 80.07 chs. By 2nd set 79.93 chs.
		The mean of which is
6100	80,00	North .76 of 1k. from the tangent.
		Set a sandstone 30x12x7 ins. 20 ins. in the ground
		for 270th mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 270 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands on W. slope of rocky butte.
and a series		
and the state of t		

ALTITUDE	CHAINS	Land rolling and broken.
n	asaA .	Soil rocky and sandy, 4th rate.
Tehen	CLOTING SER	Vegetation - grass and sage.
		Barometer 6100 ft. Thermometer 78°.
a owt a	d . unter the	On the an energy-surgeon committee and according to the surgeon of
yr tab	Y of the	271st Mile.
		S. 89° 59' E. on tangent to the parallel.
		Ascend rocky buttes.
6200	7.40	Top of butte, bears N. and S. about 200 ft. high;
hourand		thence over rocky mesa, through scrub cedar timber.
6200	41.50	Top of rock cliffs, east edge of buttes, bears N. and
Artin No.	. Bona	S. Descend.
6075	54.00	Top of spur, slope S. E.
		Stadia measurement. Angle 90- Rod 12.995 double =
A 10		2599. Constant 97.55 x 2599 = 2534.32 + C. = 1.13 =
		2535.45 ft. = 38.41 chs. + 54.00 chs. = 92.41 chs
		12.41 chs. = 80.00 chs.
5650	80.00	North 3 lks from the tangent.
		Set a sandstone 30x12x6 ins. 20 ins. in the ground
		for 271st mile cor. Marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 271 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands at foot of steep bad land slope,
		bears N. S. and S. E.
		Land rough and broken.
		Soil sandy and rocky, 4th rate.
		Vegetation - grass, sage and cedar on the cliffs.
		Barometer 5650 ft. Thermometer 80°.
		agest Address group drawn drawn drawn drawn count and county reads.
		272nd Mile.
		S. 89° 59' E. on tangent to the parallel.
		Descend over bad land hills.
	4.00	Hollow, course S. E. Ascend.
	8.00	Top of spur, slope S. E. Descend.

ALTITUDE	CHAINS	
5550	18.00	Bottom of main wash, dry, course N. W. Ascend.
		Over broken rocky W. slope through scattering cedar
		and piñon.
		Difference between measurements of 80 chs. by two sets
		of chainmen is 16 lks. Position of middle point by
		1st set 80.08 chs. By 2nd set 79.92 chs.
		The mean of which is
5875	80.00	North 7 1ks. from the tangent.
-		Set a sandstone 32x12x8 ins. 22 ins. in the ground
		for the 272nd mile cor. Marked UTAH on N. 37 N. L. on
		E. ARIZ. on S. and 272 M. on the W. faces. Raised a
		mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east of cor.
		Pits impracticable.
		This cor. stands on N. W. slope near the top of a
		rough ridge west of the gap.
		Land mountainous.
		Soil rocky, 4th rate.
		Vegetation - grass, sage and scattering cedar and
		pinon timber.
		Barometer 5875 ft. Thermometer 83°.
		In pursuance of instructions from the Hon. Commission-
		er, I produce this tangent as a random line. From
		this point to the intersection with a meridian line,
		passing through the corner common to Colorado, New
		Mexico, Utah and Arizona, as established by Chandler
		Robbins in 1875.
		I set temporary corner with the proper offset north
		to the parallel at each 80 chs. and at 5 miles and
		5.18 chs. my tangent intersects the meridian which
		passes through the said corner, 1.64 chs. north of
		said corner, and as the offset here to the parallel
		is 49 lks. north of my tangent, it makes said corner
		2.13 chs. south of the 37th parallel as indicated by
		my line. This falling answers to a correction of 0'18'

ALTITUDE

CHAINS OF 42 lks. south per mile counting from the 272nd mile, and would make the course of the true line S. 89° 42' E.

> This cor, which is the S. W. cor. of Colorado, the S. E. cor. of Utah, the N. E. cor. of Arizona, and the N. W. cor. of New Mexico, consists of a shaft of limestone 7x7 ins. square $2\frac{1}{2}$ ft. above ground, firmly set, marked COLORADO on the N. E. NEW MEXICO on the S. E. ARIZONA on the S. W. and UTAH on the N. W. faces, and is surrounded by a mound of stone 6 ft. base 2 ft. high. This corner stands on a level mesa or table land, about 10 chs. wide, E. and W. by about 25 chs. long N. and S. about $1\frac{1}{2}$ miles south of the San Juan river, and about 300 ft. above it. This mesa is entirely devoid of vegetation. was recently (March 26th and 27th 1899) restored by H. D. Page, U. S. Deputy Surveyor of Salt Lake City, Utah. From this cor. Chimney Rock on the Latra mountains bears N. 45° 40' E. about 20 miles dist. Darling's Peak on the Latra mountains bears 36° 53' E. about 20 miles dist. Wilson's Peak, now called Ship Rock, bears S. 28° 12' E. N. W. point of Sierra Carriso bears S. 54° 00' W. about 12 miles dist. Conical point on mesa, which bears N. E. and S. W. bears N. 37° 20'W about 3/4 of a mile dist. point on north end of this mesa bears N. 52° 20' E. 28.65 chs. dist. This course and distance practically agrees with that given by Chandler Robbins. The cone shaped hill, being rounded over the top, there is no well defined point from which to measure, though the summit does not cover an area of over 20 square ft. After a careful search, I failed to find any evidence of there ever having been any other corner

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	ALTITUDE	CHAINS	established on this mesa, or in this vicinity, and
	111111		I feel satisfied that the Page corner stands on the
			spot where Chandler Robbins erected his corner in
		The ore	1875.
		anniet in	June 28th, 1901.
	100	Barrier -	
	main.		June 29th, 1901, I examine the adjustments of the tran-
		reflection.	sit and find it in perfect adjustment. I compare
			the steel tapes with the standard and find them of
		Pitter.	correct length.
			I now return to the 272nd mile corner. Theree I ran on the
			273rd Mile.
	and the		S. 89° 42' E. on a true line toward the
	mean		terminal corner
	1		Ascend.
		2.00	On steep north slope in gap of rough ridge, which
			rises to a peak about 1/4 mile S. E. Bottom of
			guich about 12 chs. N. W. Then the ridge rises to a
			peak about 15 chs. N. W.
		10.48	Top of bench bears N. and S., slopes N. Descend.
		35.00	Bottom of wash, dry, course N., about 300 ft. below
			the bench.
		37.00	Top of low ridge, bears N. and S.
		42.50	Bottom of wash, dry, course N. Ascend along N. slope
			in scattering codar.
-		68,00	Top of rocky spur, slope N.
			Difference between measurements of 80 chs. by two
			sets of chainmen is 8 lks. Position of middle point
			by 1st set 80.04 chs. By 2nd set 79.96 chs.
			The mean of which is
	5700	80.00	Set a sandstone 31x12x7 ins. 21 ins. in the ground
			for 273rd mile cor. marked UTAH on N. 37 N. L. on E.
			ARIZ. on S. and 273 M. on the W. faces. Raised a
-			mound of stone 5 ft. base 2 ft. high east of cor.

_			
	ALTITUDE	CHAINS	Pits impracticable.
			A cedar tree 12 ins. diam. bears S. 28° 50' W. 72
	A THE SECTION	11.	lks. dist. marked ARIZ 273 M. B.T.
			A cedar tree 10 ins, diam bears N. 20° 50' W. 38 lks.
		disco	dist. marked UTAH 273 M. B.T.
	o '	ntanigni	No other trees within limits suitable for bearing trees
			Land rolling and broken.
			Soil sandy and rocky, 4th rate.
			Vegetation - grass, sage, and scattering scrub cedar.
	. 		Barometer 5700 ft. Thermometer 85°.
			D W
		. 200	274th Mile.
	p (falb)	to opera	S. 89° 42' F. on a true line.
			Ascend over bad lands, through scattering timber.
	, and	d , site (Stadia. Angle 9°+ Rod. 13.00 = 1300 ft. Constant
	don ni	0 t 7 70	97.55 x 1300 = 1268.15 + C = 1.13 = 1269.28 ft. =
		. mid att.	19.23 chs.
	5900	19.23	To top of sharp white bad land ridge, bears N. E. and
	adjank	Dappras.	S. W. Descend.
			Stadia. Angle 20- Rod 12.99 double = 2598 ft.
			Constant 99.88 x 2599 = 2594.88 + C. = 1.15 = 2596.03
			ft. = 39.33 chs. + 19.23 chs. = 58.56 chs.
	5700	40.00	Bottom of dry ravine at foot of white ridge, course
			S. W. about 200 ft. below top of ridge. Ascend.
	5820	58.56	Stadia point on broad spur, slope S. Thence by tape
	100		measurement.
	2000	68.00	Leave scattering timber, bears N. and S.
		. port-in	Difference between measurements of 21.44 chs. by
	766.16	14 4 91	two sets of chainmen is 2 lks. Position of middle
	or town		point by 1st set 21.45 chs. By 2nd set 21.43 chs.
	70 000		The mean of which is 21.44 chs. + 58.56 chs. =
	5850	80,00	Set a sandstone 30x13x8 ins. 20 ins. in the ground
			for 274th mile cor. marked UTAH on N. 37 N. L. on E.
		- I Want	ARIZ. on S. and 274 M. on W. faces.
		The state of	

	ALTITUDE	CHAINS	Raised a mound of stone $5\frac{1}{2}$ ft, base $2\frac{1}{2}$ ft. high east
			of cor. Pits impracticable.
			Carriso peak bears S. 22° 15' W.
			Land rough, broken bad lands.
			Soil sandy and alkali, 4th rate.
			Vegetation - grass, sage and scattering cedar.
			Barometer 5850 ft. Thermometer 92°.
			275th Mile.
			S. 89° 42' E. on a true line.
			Descend over rolling sand hills.
		60,00	On north slope of rocky butte. Descend.
		75.00	Hollow, drains S. E. Ascend S. W. slope of another
			butte.
		100 . 171	Difference between measurements of 80 chs. by two
			sets of chairmen is 12 lks. Position of middle point
			by 1st set 80.06 chs. By 2nd set 79.94 chs.
			The mean of which is
		80.00	Falls on steep rocky slope of butte. Impracticable to
			establish the cor.
			Land rolling and broken.
			Soil sandy, 4th rate.
		**	Vegetation - grass and sage.
			276th, Mile.
			S 89° 42' E. on a true line.
			Ascend.
	5900	5.46	On south slope of rocky butte near the top.
			Set a sandstone 37x10x7 ins. on bare rock against
		TO 100 M	north side of boulder for 275th mile cor. marked UTAH
			on N. 37 on E. ARIZ. on S. and 275.068 M on the W
			faces. Raised a mound of stone 5 ft. base 2 ft. high
			around the cor. Raised a mound of stone $5\frac{1}{2}$ ft. base
-			22 ft. high east of cor. Pits impracticable.
The second second		No. No. of the last	Barometer 5900 ft. Thermometer 102°.
1		ANTHON MANUAL STATES	

ALTITUDE	CHAINS	Continuing on true line.
		Descend.
5700	13,50	Foot of rocky butte, bears N. and S. W. Thence over
· ug est		rolling sand hills.
	65.00	Top of bluffs, bears N. E. and S. E. Descend.
Total Control	, and the	Difference between measurements of 80 chs. by two
, batters m	ord ni	sets of chainmen is 6 lks. Position of middle point
. 176	. N 78	by 1st set 80.03 chs. By 2nd set 79.97 chs.
		The mean of which is
5650	80.00	Set a sandstone 36x10x7 ins. 24 ins. in the ground
		for 276th mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 276 M.on the W. faces. R
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
LOSES BE	ibeolgas	of cor. Pits impracticable.
		This cor. stands in a little valley that drains N. E.
1.60		Land rolling and broken.
		Soil sandy, 4th rate.
		Vegetation - grass and sage.
		Barometer 5660 ft. Thermometer 102°.
		After a careful search, I fail to find any trace of
	A Wife L	E. N. Darling's 331st mile corner mentioned in the
Auroson,		field notes furnished me by the Hon. Commissioner.
10 10		
N. ARDI	MAYOUR .	277th Mile.
Liceda M	A STATE OF THE STA	S 89° 42' E. on a true line.
P. P.	Man mill	Along north slope.
5650	32.14	On wall of canon about 100 ft. deep, bears N. and S.
		Descend.
		Stadia measurement. Angle 2°+ Rod 10.77 double =
		2154 ft. Constant 99.88 x 2154 = 2151,42 + C = 1.15
		= 2152.57 ft. = 32.61 chs. + 32.14 chs. = 64.75 chs.
	48.00	Bottom of wash, dry, 1 ch. wide, course N. Ascend.
	64.75	Top of ridge, bears N. and S. Descend. Thence by

שטעו	WALL LIN	E DETWEEN THE STATE OF CTAIL AND THE TERRITORY OF ARIBOTIA.
ALTITUDE	CHAINS	tape measurement,
	75.00	Dry gulch, course S. Ascend.
19370 IS	1	Difference between measurements of 47.39 chs. by two
		sets of chainmen is 4 lks. Position of middle point
	in Section 1	by 1st set 47.41 chs. By 2nd set 47.37 chs.
	P. Carro	The mean of which is 47.39 chs. + 32.61 chs. =
5650	80.00	Set a limestone 30x10x8 ins. 20 ins. in the ground,
		for 277th mile cor. marked UTAH on N. 37 N. L. on E.
		ARIZ. on S. and 277 M. on the W. faces.
		Raised a mound of stone $5\frac{1}{2}$ ft. base $2\frac{1}{2}$ ft. high east
	170	of cor. Pits impracticable.
	Feb.	Land rough and broken.
	H. Yan h	Soil rocky, 4th rate.
		Vegetation - grass, sage and a few scrub cedars among
17,7		the rocks.
		Barometer 5650 ft. Thermometer 100°.
		The first two parts also are not the first two parts.
		278th Mile.
		S. 89° 42' E. on a true line.
		Ascend.
	1.30	Top of bluff on edge of mesa, bears N. and S.
5675	5.18	The terminal corner being the s. W. corner of Colorado,
		the N. W. corner of New Mexico, the N. E. corner of
		Arizona, and the S, E. corner of Utah, previously page 287
		described, making the total length of this line from
		the initial corner 277 miles and 5 chains and 18
		links. or 277,06475 miles
		Land nearly level mesa.
		Soilv- alkali and gypsum, 4th rate.
		Vegetation - none.
		Barometer 5675 ft. Thermometer 100°.
· Ittlere		June 29th, 1901.
		B Comberna
		Howard B. Carpenter. U.S. Surveyor and astronomer
		U.S. Surveyor

ASTRONOMICAL FIELD NOTES.

MOTOR CONTRACT TO SECURIT SECURITY

DESCRIPTION OF INSTRUMENTS.

The Zenith Telescope furnished by the Land Office was No. 8 made by William Würdemann and was a very old instrument.

The telescope was 25 inches focal length and 2.1 inches aperture, its optical performance was good for one of its size. The circles, levels and clamps were not well arranged for the convenient working of the instrument.

The micrometer value was one revolution, equal to 66:22 (seconds) and the level, one division equals 00"85 (seconds) . The instrument was mounted on an iron stand, a frustum of a cone five feet high buried two and one half feet, in the ground, the whole filled with earth and tamped within six inches of the top of the stand.

This arrangement was the same at all the stations except No 4. Colorado River Station where the rock was near the surface, there the upper half of the stand only was used and was filled with earth as before stated.

The Chronometers were my own. No, 1051 Hiatt and No. 333 Barraud, the first sideral and the other mean time.

The corrections were obtained by observing bright stars in the day time and when there was time between stars observed for latitude, a time star was taken.

No. 1051 performed well with a small rate and gave the time for the latitude stars so that they were found without difficulty.

The reductions of all the observations were made in the field.

Signect AUGUSTUS MACCONNEL.

ASSISTANT ASTRONOMER.

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ASTRONOMICAL NOTES.

Mean places of r stars for 1901.0 Used for determining Latitude along Utah-Arizona Boundary Line.

Star.	Right Ascensi		Declination.	Authority.
n Cancri	h m 8 26	59.1	+20°46'39.4"	B. A. Jahrbuch 1901.
Gr. 1460	8 31	57.5	+53 03 31.3	11 17 19
38 Lyncis	9 12	41.2	+37 13 18.1	11 11 11
10 Leo. Min.	9 28	09.7	+36 50 14.2	11 11 11
30H. Urs. Maj.	10 16	59.8	+66 04 02.1	10 11 17
X Leonis	10 59	54.6	+ 7 52 16.9	19 19 19
✓ Leonis	11 16	01.9	+ 6 34 18.9	11 11 11
3 Draconis	11 36	57.4	+67 17 34.3	87 19 19
4127 B. A. C.	12 11	20.1	+24 29 43.4	Safford 1875.
4148 B. A. C.	12 14	56.3	+49 32 00.9	11 11
4203 B. A. C.	12 22	52.6	+56 15 37.8	19 69
4248 B. A. C.	12 32	00.	+17 38 05.6	1892
4287 B. A. C.	12 40	28.	+45 58 52.4	10 10 11
31 Comae Ber.	12 46	52.6	+28 04 45.8	Amer. Ephemeris 1901.
4384 B. A. C.	13 00	47.	+36 19 42.0	Safford 1875.
4479 B. A. C.	13 19	25	+37 33 02.5	n n
4600 B. A. C.	13 42	44.	+39 02 17.0	10 10
4632 B. A. C.	13 47	25.5	+34 56 05.1	11 11
4649 B. A. C.	13 50	13	+54 12 55.5	" 1892.
& Bootis.	14 11	08.7	+19 41 51.8	Amer. Ephemeris 1901.
4797 B. A. C.	14 24	10	+36 38 23.3	Safford 1873.
4816 B. A. C.	14 29	17.6	+37 23 50.3	10
& Bootis.	14 40	39.8		Amer. Ephemeris 1901.
4903 B. A. C.	14 45	47.	+46 31 42.2	Safford 1892.
-4953 B. A. C.	14 57	46	+25 23 56.1	" 1875.
4980 B. A. C.	15 2	09.	+48 31 59.6	19 19
5075 B. A. C.	15 19	07.	+30 38 42.8	tt tt
5157 B. A. C.	15 31	46.	+43 29 42.5	n n

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	and graph		
	Declination.	Ason Bloc.	
Belgina . A . A	48,001A40094	E. 88 88 8	
	+53 03 31.8	8,88 18 1	
	437 13 18, 22	8.18 61.8	
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		8288-80 00	
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ASTRONOMICAL NOTES.	ASTE	RONOMI	CAL	NOTES.
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Star.	Right Ascensi h m		Declination.	Authority.
X Serpentis.	15 44	17.	+18°26'49.8"	B. A. Jahrbuch 1901.
5248 B. A. C.	15 45	14.	+55 40 47.1	Safford 1892.
5523 B. A. C.	16 25	23.	+42 05 59.7	" 1875.
} Herculis.	16 37	33.	+21 46 55.5	B. A. Jahrbuch 1901.
77 Herculis.	17 11	36.	+36 55 13.7	89 89 89
5847 B. A. C.	17 14	16.	+37 23 42.6	Safford 1892.
L Herculis.	17 36	40.	46 03 31.6	B. A. Juhrbuch 1901.
M Herculis	17 42	35.	+27 46 42.0	10 10 10
o Draconis.	18 49	44.	+59 16 02.1	n n
& Aquilae.	18 55	08.	+14 56 0.7	11 11 11
V Lyrae.	19 12	56.	+37 57 25.6	17 19 19
6651 B. A. C.	19 20	33.	+36 15 29.0	Safford 1892.

Remarks. The list of stars observed for latitude was taken from Prof. Stafford's catalogues 1875 and 1892. The first was published by the U. S. Engineer Department 1879 and the second by the Mexican Boundary Commission in 1898. The other stars taken from the American Ephemeris 1901, and Berliner Astronomisches Jahrbuch 1901.

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	E. A. A.	WH. Childs					
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ASTRONOMICAL NOTES. STATION NO 1.

7										1.	
Date 1901		icrom. eading R.	Level N. d		Ha De	lf- cli	sum of nation	Co Mic	rrecti rom. L	ons Lat evel 37	itude
Warch 25	30HUrs.Maj.	+0.50	21.5	27.0							
	XLeonis	+6.60	20.5	30.2	36	°57	157.5"	+3	'21.9"	-2.2"	17.2"
	& Leonis	+6.96	37.5	23.0							
	3 Draconis	-6.91	31.5	28.0	36	55	42.1	+5	32.4	+3.8	18.3
7 0 6	20. 0	+3.02		05.0							
Marchizo	n Cancri		33.0	1	7.0	EA	F.O. 4	16	70.0		75.0
	Gr. 1460	-4.77	36.5	22.0	36	54	58.4	+6	12.2	+4.6	15.2
1 21-	38 Lyncis	+2.42		35.8							
	10Leo.Min.	+1.73	27.0	43.5	37	01	36.9	-0	22.5	-4.1	10.3
	30Hurs.Maj.	-9.62	28.0	44.0							
	χ Leonis	+5.57	37.0	37.8	36	57	57.6	+3	17.3	-3.6	11.3
	4287 B.A.C.	+2.58	40.0	38.8							
	31 Comae Be	r+1.96	35.8	44.0	37	01	32.6	-0	20.5	-1.4	10.7
		4.78		M. C.							
March 27	n Cancri	+7.77	37.0	28.0							
	Gr. 1460	-6.65	29.5	26.0	36	54	58.2	+6	08.2	+0.5	06.9
	38 Lyncis	+9.54	46.2	30.0							
	loLeo.Min.	+8.56	36.0	40.0	37	01	36.9	-0	32.4	+2.6	07.1
1				La	titu	ıde .	•		+37°01	12.1"	
	Probable error final result. #1.04"										

Remarks. No. 1 was located about three miles west of Beaver Dam Wash near the James sandstone shaft mentioned in the instructions.

The country was much broken and sandy, - Water twelve miles distant.

When this station was occupied in March very little rain and snow

fell, but clouds interfered, making it impossible to obtain many
observations at this station.

AUTHOROGICAL SOURCE

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Proposite areaser out a succession of the succes

				RONOMI							
			S	TATIO	и ио	. 2	•	-			
Date 1901	Star Re	icrom. eading R	I.e.	vel S.	Hali Dec:	f-si lina	um of ation	Cor	rection on Le	ns Lat: vel 37	itude 2001
April 11	36 Lyncis	+3.69	35.0	35.6							
,	loLeo.Min.	+0.86	33.0	39.0	379	or	38.8"	-1	33.3"	-1.4	04.1"
	σ Leonis	+6.83	32.0	29.0	*			-			
	3 Draconis	-9.14	32.0	27.5	36	55	44.8	+4	14.3	+1.6	00.7
	4127 B.A.C.	+0.82	26.0	33.0							
	4148 B.A.C.	+2.02	33.5	27.0	37	00	43.1	-0	39.7	-0.1	03.3
	4203 B.A.C.	+2.85	21.0	40.5						24	, 5°0 '
	4248 B.A.C.	-9.02	34.0	28.0	36	56	38.9	+3	23.9	-2.9	59.9
	4287 B.A.C.	+4.97	29.5	37.5							
190 42 8	31Comae Ber	.+2.43	24.0	44.0	37	01	36.2	-1	24.1	-5.9	06.2
4 17 (0)	as Consus	10.00		15.0							
April 12	n Caneri	+8.88	32.0		36	54	50 6	+5	01.9	+2.4	03.9
	Gr. 1460	-9.75	16.0	22.0	50	0.4	.00.0		020	1262	00,5
	38Lyncis	+4.73	28.0	30.0	20	0.7	70 A	-1	37.3	-0.4	01.1
	loLeoMin.	+1.79	29.5	29.5	31	01	50.0			0,2	0===
	30HUrs.Maj.		32.0	30.0	7.0	E 7)	50 R	+2	03.2	-1.3	01.7
	X Leonis	+4.77	28.0		30	57	39.0	.~		-100	0101
			31.0	35.0			44.0		10.7	0.6	00 F
	3 Draconis	-9.16	29.0	37.5	36	55	44.8	+4	10.0	-2.0	00.5
	4127 B.A.C.	+0.96	30.0						40.4		20 5
1-11/11/11	4148 B.A.C.	+2.18	30.0	31.0	37	00	43.1	-0	40.4	-0.2	02.5
	4203 B.A.C.	+0.76	29.0								
-	4248 B.A.C.	+6.80	33.0	29.0	36	56	39.0	+3	24.0	+0.2	03.2
	4297 B.A.C.	+7.13	22.0								
To water	31ComaeBer.	+4.37	35.0				36.4			-3.0	
				Lati	tude				±37°0	0'02.5'	•

Probable error final result. \$20.35"

Remarks, - Station No. 2 was located in a sandy basin on line near fifty first mile. Cloudy weather and sand storms made work at this station exceedingly difficult, main camp three miles south at New Pasture Springs.

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The state of the s

			ASTRO ST.	NOMIC. ATION	AL NOTES. NO. 3.				
Date 1901		crom. ading R			Half-sum Declinati				
Azoril 22	4649 B.A.C.	+0.99	33.0	29.0					
	∡ Bootis	+5.88	32.0	32.0	36°57'11.	8" +2	141.6"	+0.8"	54.2"
- I	4797 B.A.C.	-9.49	36.0	36.0					
	4916 B.A.C.	+1.49	44.0	27.0	37 00 54.	9 -1	06.2	+3.6	52.3
	& Bootis	-9.39	36.0	35.0					
	4903 B.A.C.	+0.44	39.0	32.0	37 00 23.	8 (34.4	+1.7	51.1 1
	4953 B.A.C.	+1.91	33.0	39.5					
	4980 B.A.C.	-8.17	42.0	31.0	36.57 46.	9 +2	2 03.8	+1.0	51.7
799	38Lyncis	±0.91	13.0	37.5					
April 23	10Leo.Min.			32.5	37 01 39	8 =	1 36.7	-8.0	55.1
	30H.Urs.Maj			32.0					
	X Leonis	+2.29	34.0	28.0	36 58 01	.0 +	1 51.2	+0.2	52.4
	o Leonis		32.5	30.0					
	3 Draconis		29.0	32.0	36 55 46	.6 +	4 05.0	-0.1	51.5
	4127 B.A.C.		26.0	37.0					
	4148 B.A.C.	-9.57	25.0	38.0	37 00 41	.5 -	0 45.0	-5.1	51.4
	4203B.A.C.	-7.87	19.0	45.0					
The state of the s	4248 B.A.C.	+3.59	44.5	19.5	36 56 41	.1 -	+3 09.4	-0.2	50.3
	70II II 35 .		00 5						
April24	30H. Urs. Maj	100		20.0	36 58 00),5	+1 46.6	+3.0	50.1
	χ Leonis σ Leonis		28.5						
	3 Draconis					6.6	+4 02.4	+1.7	50.7
	4127 B.A.C.								
- 44	4148 B.A.C.		*, *			1.5	-0 54.3	+3.5	50.7
	4203 B.A.C								
	4248 B.A.C.			=		1.1	+3 07.	4 +2.1	50.6
	4287 B. A.								
	31ComaeBer				37 01 3	38.2	-1 50.	6 +2.5	50.1
					Latitude.			36°59'5	
								4	- 000

Probable error final result ±0.27"

Station No. 3 was most favorable as to position and weather conditions of any along the line, was near the 94th mile.

THE STATE OF THE RETWEEN THE STATE OF DEAL SHOUTER TERMITORY OF ASSOCIA

20,000, Lake a 711, 20%

					CAL NOTES. NO. 4.			
Date 1901	Star Re	crom. adings	N.	vel S. d	Half-sum of Declination	Correction Microm. Let	n Lat	itude.
May 10	σ Leonis	+4.21	32.0	23.5				
	3 Draconis	-4.81	33.0	24.5	36°55'48.8"	+5'11.2"	+3.6"	03.6"
	4127 B.A.C.	-9.29	32.5	27.0		*~ *		
	4148 B.A.C.	-8.48	21.0	39.0	37 00 46.6	+0 26.5	-3.0	08.1
June 1	4203 B.A.C.	-7.66	20.0	40.0				
,	4248 B.A.C.	+5.72	30.0	31.0	36 56 44.2	+4 26.9	-4.5	06.6
	4287 B.A.C.	+1.53	34.0	26.0				
	31ComaeBer.	+0.32	32.0	29.0	37 01 41.8	-0 39.7	+2.3	04.4
	4384 B.A.C.	+5.47	29.0	32.5				
	4479 B.A.C.	-6.74	34.0	27.0	36 56 14.8	+4 48.7	+0.8	04.3
	4649 B.A.C.	-8.11	17.5					
	∠ Bootis	+4.98	33.0	27.0	36 57 15.8	+3 47.1	-1.8	01.1
	4797 B.A.C.	-9.87	32.0	20.0				
	4816 B.A.C.	-9.79	31.0	21.0	37 00 59.3	+0 02.6	+4.7	06.6
	4953 B.A.C.	+3.43	16.0					
	4980 B.A.C.	-7.09	13.0	39.5	36 57 51.1	+3 29.9	-9.9	11.1
May 11	4127 B.A.C.	+0.24		29.0				
U	4148 B.A.C.	-9.34	22.0	23.5	37 00 44.8	+0 29.8	-0.9	13.7
	4203 B.A.C.		** **	15.0				
	4248 B.A.C.	-4.28	25.5	20.0	36 56 44.4	+4 18.3	+4.6	07.3
	4287 B.A.C.	+2.71	22.5	23.5				
	31Comae Ber	.+1.79	18.0	28.5	37 01 42.0	-0 30.4	-2.5	09.1
	4384 B.A.C.	+5.83	23.0	23.0				
	4479 B.A.C.	-6.96	24.0	25.0	36 56 15.0	+4 54.0	-0.2	08.8
	4649 B.A.C.	-9.42	49.0	08.0				
	∠ Bootis	+5.96	36.0	21.0	36 57 16.0	+3 36.5	+11.9	04.4
	4797 B.A.C.	+1.50	30.0	27.5				
	4816 B.A.C.	+1.20	31.0	27.0	37 00 59.6	+0 09.9	+1.4	10.9
	& Bootis							
	4903 B.A.C.	-14.39	27.0	32.0	37 00 28.4	+0 35.1	+2.1	05.6
	4953 B.A.C.							
	4980 B.A.C.	-9.11	25.0	33.0	36 57 51.3	+3 13.3	+0.8	05.4

MANAGEMENT HAVE DETWIEN THE STATE OF STATE AND THE TERRITORY OF ANALOGICAL

PO. C. D. O. H. DAVI

BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

				RONOMIC TATION							
Date 1901		icrom. eading R	Le N.	vel S.	Hal Dec	f-a	sum of nation	Con	rection. Le	ons La evel 3	titude 7°01'
May 12	σ Leonis	+7.74	39.0	46.0	1						
	3 Draconis	-8.02	41.5	43.0	369	55	48.9"	+5	21.8"	-2.0"	08.7"
	4127 B.A.C.	-8.66	40.0	29.5							
	4148 B.A.C.	-8.14	36.0	32.5	37	00	45.0	+0	17.2	+3.0	05.2
	4203 B.A.C.	-5.71	36.0	33.5							
	4248 B.A.C.	+3.57	39.0	30.0	36	56	44.6	+4	20.2	+2.4	07.2
	4287 B.A.C.	+1.06	38.0	31.5		-					
	31Comae Ber	.+0.01	35.0	34.0	37	01	42.1	-0	34.4	+1.6	09.3
	4384 B.A.C.	+5.49	32.5	37.0							
	4479 B.A.C.	-6.59	35.0	36.0	36	56	15.2	+4	54.7	-1.4	08.5
	4649 B.A.C.	-8.59	41.0	30.0							
	& Bootis	+5.57	32.5	38.5	36	57	16.1	+3	44.5	+1.0	01.6
	4797 B.A.C.	-8.75	39.0	33.0							
Parks VI	4816 B.A.C.	-8.75	48.0	24.0	37	00	59.8	0	00	+6.4	06.2
	& Bootis			34.0							
	4903 B.A.C.	-14.87	44.0				**				06.0
							le.		*		
	The state of		Prohe	hle er	ror	fir	nal res	ult		±0.41"	

Remarks, - This station at Colorado River was at a bend in the river as far south as possible without crossing to the south side.

The upper section of iron stand was used and rested on soft sandstone, was filled in with earth and tamped as at other stations.

AMOREMA TO REPORT OF THE OWN INTO SECURITY SHEET OF THE SECURITY AND SECURITY AND SECURITY OF THE SECURITY OF

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				TRONOMI STATIO							
Date 1901	Star	Microm. Reading R	N. d	S.	Ha De	lf- cli	sum of nation	Co	rrection. L	ons La evel 3	titude
June 10	& Bootis	-9.07	50.0	12.0							
	4903 B.A.C	9.73	31.0	32.0	37	000	135.6"	-0	'21.9"	+7.8"	21.5"
	4953 B.A.C	. +1.08	41.0	22.0							
	4980 B.A.C	6.71	23.0	41.0	36	57	57.6	+2	24.4	+0.2	22.2
	5075 B.A.C.	-7.44	33.0	31.0		-					
	5157 B.A.C.	+4.44	45.0	30.0	37	04	15.7	-3	51.8	+3.6	27.5
	5523 B.A.C.	-8.36	67.0								
	3 Harculis	+5,13	30.0	35.0	36	56	29.6	+3	43.8	+13.2	26.6
	77 Hurculis	-1.72	35.0	32.0		,					
	5847 B.A.C.	+8.37	37.0	29.0	37	09	30.5	-9	10.9	+2.4	22.0
	L Hurculis	-6.52	31.0	36.0							
	M m	+6.02	33.0	35.0	36	55	09.4	+5	14.5	-1.5	22.4
T	1301 D A G		10.0	46.0							
oune II	4384 B.A.C.		37.0		36	56	20.5	+4	08.3	-4.2	24.6
	4479 B.A.C.		32.0								
	4600 B.A.C. 4632 B.A.C.			-, -	36	59	10.2	+1	13.0	+5.8	29.0
	E Bootis										2010
	4903 B.A.C.				37	00	35.8	-0	00.7	-8.0	27.1
	4953 B.A.C.										
	4980 B.A.C.				36	57	58.4	+2	32.3	-3.5	27.2
June 12	77 Hurculis										
	5847 B.A.C.	+11.17	32.0	23.5	37	09	31.1	-9	18.9	+6.0	18.2
	L'Hurculis										
	u "	+3.62			36	55	10.0	+5	11.2	+1.6	22. 8
	oDraconis										
	& Aquilae	-3.99	29.8	38.5	37	06	05.8	-5	42.3	-3.0	20.5
	VLyrae	+5.27	33.5	35.0		. 10					
	6651 B.A.C.	-5.28	33.0	37.0	37	05	56.5	-5	31.1	-1.4	24.0

DAMPINA TO PROTEST MAN AND HATE OR STREET SHITCH OF AND THE TENEFORM OF AREASTERS

ASTRONOMICAL NOTES.

STATION NO. 5.

			S	TATION	NO. 5	•				
Date 1901	Star R	icrom. eading R	Le N. d	S.	Half-s	sum of nation	Cor Micr	rection. Le	ons Lat:	itude. °00'
June 13	4649 B.A.C.	-6.20	22.8	44.0			-			
	& Bootis	+2.01	26.5	39.5	36°57	22.8"	+3 1	12.0"	-7.3"	27.5"
	4953 B.A.C.	+1.02	38.0	32.5		***		*		
	4980 B.A.C.	-7.24	66.0	4.0	36 57	58.9	+2	05.2	+14.4	18.5
	5523 B.A.C.	-5.90	33.5	36.0						
	Herculis	+2.88	43.5	29.0	36 56	30.6	+3	51.1	+2.5	24.2
	77 "	-9.16	34.0	36.5						
	5847 B.A.C.	+5.82	39.0	34.0	37 09	31.5	-9	11.6	+0.5	20.4
	L Herculis	-4.84	28.5	44.5		2 -,				
1 3	M n	+4.47	40.0	36.0	36 55	10.3	+5	17.6	-2.6	25. 3
				Latit	ude.		+37°00'23.8"			
			Pro	hable	error	final	rest	alt.	to 40	11

Remarks,- This station was in a south west branch of Copper Canon with sides almost impassable. The canon was narrow and the lights were frequently extinguished by down currents of air. Weather cloudy more than one half of the time.

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BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

ASTRONOMICAL NOTES.

ST.	TT	ON	NO.	6.
DIT	7 1 1	OTA	TIVE	Ue

					S	COLLAR	NO.	, 6,	•				
	Date 1901	Star		icrom. eading R								ons La evel 3	
•	Tune 22	4797	B.A.C.	-9.06	54.0	28.0							
		4816	B.A.C.	-9.70	45.0	37.5	379	01	08.6"	-01	21.2"	+7.1"	54.5"
		E Boo	tis	+0.37	46.0	39.0							
		4903	B.A.C.	-9.65	28.5	56.5	37	00	38.0	+0	23.8	-4.4	57.4
		L Her	culis	-6.11	27.5	29.5							
		μ	"	+6.57	25.0	32.5	36	55	12.9	+5	46.3	-2.0	57.2
						677.							
(Tune 23	4797	B.A.C.	-7.35	40.0	28.0		-	-				
		4816	B.A.C.	-7.85	36.0	32.0	37	01	8.80	-0	16.6	+3.4	55.6
		E Boo	tis	+0.14	34.0	35.0							
		4903	B.A.C.	-9.24	13.0	55.0	37	00	38.1	+0	29.8	-9.2	58.7
		4953	B.A.C.	-0.89	32.0	38.0							
		4980	B.A.C.	-5.41	26.0	43.5	36	58	00.6	+3	01.4	-5.0	57.0
		5075	B.A.C.	-5.47	26.5	27.5							
		5157	B.A.C.	+1.81	35.0	19.0	37	04	18.5	-3	29.9	+3.2	51.8
		5523	B.A.C.	-5.16	23.0	35.5							
		3 Her	culis	+3.12	35.5	27.0	36	56	33.0	+4	23.6	-0.2	56.4
		71	11	-7.66	44.0	20.0							00,4
		5847	B.A.C.	+3.54	30.0	33.0	37	09	34.4	-8	45.8	+4.4	53.0
			culis										
		M	**	+4.62	28.5	36.0	36	55	13.2	+5	43.0	-2.7	53.5
					*								
•	June 24	4797	B.A.C.	-7.46	39.0	29.5		-					
		4816	B.A.C.	-8.20	46.0	23.5	37	01	09.0	-0	24.5	+6.8	51.3
		& Boo	tis	-8,55	40.5	29.0							
		4903	B.A.C.	-8.23	35.0	35.0	37	00	38.3	+0	10.6	+2.5	51.4

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ASTROLOGICAL ROTES.

STATION NO. 6.

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ASTRONOMICAL NOTES.

STATION NO. 6.

					INIION	Tio. O.					
Date 1901	Star	M: Re	icrom. eading R	Le N. d	vel S. d	Half-s Declin	sum of nation	Cor Micr	rection Le	ons La evel 3	titude 7900'
June 2	24 4953	B.A.C.	+2.56	44.0	26.5						
	4980	B.A.C.	-7.61	40.0	30.5	36°58'	00.8"	+2'	44.2"	+5.8"	50.8"
	5075	B.A.C.	-6.61	29.0	42.0						
	5157	B.A.C.	+2.59	29.0	41.5	37 04	18.7	-3	18.0	-5.4	55.3
	5523	B.A.C.	-4.86	33.0	39.5						
	3 Her	culis	+2.77	39.0	35.0	36 56	33.4	+4	22.2	-0.5	55.1
	77	19	(20) -9.45	53.5	57.0						
	5847	B.A.C.	+5.33	46.0	45.5	37 09	34.6	-8	45.8	+3.6	52.4
	L Her	culis	-4.71	28.5	31.0						
	u	11	+5.15	26.5	35.0	36 55	13.5	+5	45.7	-2.4	56.8
					I	atitude	€.	+37000154.6			
		±0.41"									

Remarks,- The two hundred and fiftieth mile was in a sand desert with sand storms all of thetime. The station was put further north on the east side of a ridge formed by a trap dyke, this afforded some protection from the sand, even then the circles and levels had to be brushed off every fifteen minutes, so they could be read.

This was the case more or less at all stations except No. 3 near the ninety fourth mile.

(Signed) Augustus MacConnel.
Assistant Astronomer.

AROUTE A TO THE PERIOD THE STATE OF ITALE AND THE TERRITORY OF ARTHUR

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REPORT.

The country through which this boundary line runs, lies at an average elevation above the sea of about 5000 ft. The lowest point being 2200 feet at the Beaver Dam Wash at the 3rd mile from the initial point and the highest at the 175th mile on the south slope of the Navajo Mountain, 8000 feet. The climate is dry and healthful. The nights are cool, and in winter, frosty, with occasional hard freezing weather. The Colorado River at Lees' Ferry about ten miles south of the line has been known to freeze over, the ice being of sufficient thickness to allow of pedestrians crossing. The days are usually warm and in summer, hot, 105° in the shade at Kanab is not unusual. While at the low altitude of of St. George, the climate is semi-tropical, but little ice forms at any time. Cotton is raised and the pomegranate and almond grow beside the apple and the pear. The soil is very sandy, ranging from pure sand to gumbo and red clay, sometimes combined with alkali or gypsum. Nearly all kinds of crops can be raised where water can be obtained for irrigation but as all the water in Santa Clara Creek and the springs near St. George and nearly all the water of the Virgin River is utilized, the irrigated area cannot be much increased.

The country generally is sparsely covered with grass and sage, though there are wide areas of gypsum or alkali lands on which there is no vegetation but a little stunted greasewood. There are also large areas of bare sandstone on which there is no vegetation. The high mesas or table lands are generally covered with a scrubby growth of cedar and piñon, this is short bodied, not usually over fifteen feet in height. The branches are very numerous and start out near the ground making it difficult to find a space on the knotty bodies of sufficient size to place the required marks for bearing The timber is chiefly valuable for firewood and fencing. There is some fairly good yellow pine timber on Moquitch Mountain near Kanab and on Navajo Mountain east of the Colorado River. South of the line on the Buckskin Plateau there is a large forest of good timber. Many varieties of cactii abound along the whole line. Willow, mesquite and mescrew are found along the Virgin and Colorado Rivers. A little scrub live-oak on Moquitch Mountain and yucca

Dragonis or spanish boyonet in the vicinity of the initial corner. The basic rock all along the line except on the Beaver Dam Range and the Buckskin Plateau is sandstone varying in color from a pale yellow, nearly gray, to a very dark brown. This in the vicinity of St. George and some other points has been capped. with black lava. There are many limestone croppings in the Beaver Dam and Buckskin Ranges.

There are several copper mines producing ore in the Beaver Dam Range a few miles north of the boundary line. There are many copper prospects on the Buckskin plateau, about ten miles south of the line where a smelter and also a leaching process plant has recently been erected. There are said to be some copper prospects in the vicinity of Copper Cañon east of Navajo Mountains. The Colorado River for many miles each side of where it is crossed by the boundary line has been located as placer claims and a company using a steam dredger is working it for gold. There are also some parties working claims for gold along the San Juan River.

The surface is broken. There are low rolling sand hills, mesa, or table lands at different elevations that terminate in walls and cliffs, varying in height from 300 to 1800 feet. There are many deep canons beside those of the Rio Virgin and the Colorado from 500 to 2000 feet deep.

There are very few settlements along or near the line and there is no part of it that runs through cultivated lands. St. George, 7 1/2 miles north of the 26th mile corner, has a population of about 1800. Price City about 2 miles north of the 28th mile corner has about 50%. Canaan Springs about 4 miles north of the 59th mile corner has one family. Pipe Springs about 9 miles south of the 74th mile corner has one family. Kanab about 3 1/4 miles north of the 84th mile corner has about 600 people. Fredonia about 4 miles south of the same point has about 150. Johnson Creek about 6 miles north of the 92nd mile corner has about 50 people.

There is a small settlement on the Paria River about 15 miles north of the 118th mile corner. Lees' Ferry about 11 miles south of the 137th mile corner has one family. There are a few Pah Ute and Navajo Indians settled in Pah Ute Cañon about 6 miles south of the line. Small bands of Navajo Indians with herds of sheep and goats are scattered about over the country from the Navajo Mountains to the eastward. Bluff City on the San Juan River about 20 miles north of 252nd mile corner has a population of about 200.

MacConnel of Elmira, N. Y. using a WurdemannZenith Telescope loaned me by the Department of the Interior. This, when in use was placed on a frustum of a cone 5 feet long made of sheet iron in sections and bolted together, with a heavy iron ring bolted on top. This was set about 3 feet in the ground and filled with sand, firmly tamped. A trench was left around the outside about 8 inches wide and a foot deep to cut off the surface vibration, a piece of canvass 8 feet wide was used as a wind break, stretched around four posts and so arranged that tould be raised or lowered to suit the convenience of the observer. It was entirely open at the top and there was no apparent difference in temperature between the outside atmosphere and that within the observatory (See photo on page 301)

The line between astronomical stations was run by the tangent method, the tangents being projected by double back and fore sights, reversing the instrument each time to eliminate errors of collimation. The transit used for this work was made by Heller and Brightly of Philadelphia, Pa. and was provided with a six inch horizontal limb graduated to 20° of arc and reading by two double verniers placed opposite to each other, to 30° of arc. A five inch vertical limb similarly graduated and reading by vernier to 30° of arc. The telescope was 14 inches long and of very high power, it was provided with stadia wires placed at the ratio of 1 to 100. This instrument was new and was made by the above mentioned firm especially for this work. The stadia wires were so placed that either one of them could be used in conjunction with the horizontal cross wire of the instrument so that 2600 feet distance could be measured with a 13 foot rod.

The rod was held truly vertical at all times to insure which, a rod level was used and the horizontal distances were calculated on inclined sights by multiplying by a constant for the angle at each sight and a small constant called C. amounting to 1.15 feet when the telescope was level and proportional according to the angle, was added for the true distance.

Stadia measurements were used only across canons or over very rough ground, over comparatively level and rolling land two sets of chainmen were employed acting independently of each other and using steel tapes 66 feet or 1 chain in length and the mean of such measurements taken. All angles were turned at least four times with the instrument reversed at each sight and the mean of these sights was used. All turning points were marked on a wooden plug or hub driven in the ground or on a smooth firm rock.

The chainmen were the best that could be procured, two of them had been employed as chainmen on government subdivision of the public lands for several years.

An Aneroid Barometer 2 3/4 inches diameter with attached thermometer was used for ascertaining the elevations for use in making the profile and the altitude in feet above the sea level is shown in the field notes.

A number of photographs of points on or near the line were taken, some of which are shown in this volume. Many valuable plates were ruined by the horse, on which the camera was packed, getting down in the quicksands of the San Juan River, notably those showing the 6th Astronomical Monument at the 250th mile corner and objects in that vicinity.

A sideral chronometer Hyatt No. 1051 was used for time at the astronomical stations and this was checked for local mean time by a Barraud chonometer No. 333, both belonging to Mr. MacConnel, this was used in connection with several stars observed for local mean time. The sideral chronometer was packed in cotton, face up, and carried in a grip. Mr. MacConnel carried this grip in his hand along the whole line, he walking

BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

all the way as he was unwilling to subject it to the jar incident to riding on horseback, or any other mode of conveyance.

We used for transportation of supplies and camp equipage along the line, a pack train composed of horses and burros, used wagons for hauling freight and water: from the initial corner as far east as the Colorado River. From the river eastward, wagons could not be used and we had to rely upon the pack train except that we managed to get a wagon and a load of supplies from Bluff City on the San Juan River, to come out and meet us at Monument Pass.

The iron mile posts were made in St. Louis, Mo. and shipped to Modena, Utah by rail, thence transported by freight teams and pack animals. For carrying water for camp along the easterly portion of the line, I used a number of five gallon kegs.

Many of the stone corners were set on bare rock with a monument of stone built around them and a witness monument of stone of the regulation size raised east of the corner. This was unavoidable owing to such large tracts of country being denuded of soil. Where the rock was hard and smooth enough to admit of it, a cross was made at the exact point for the corner and the bed rock properly marked on each side of the cross and a witness monument raised east of it, but in many places this plan was found to be impracticable owing to the friable and partly decomposed nature of the surface of the bed rock.

Offsets were unavoidable at the Paria Cañon and over some of the denuded and very much broken country just east of the Colorado River and also at the Navajo Mountain.

The Navajo Indians caused us no trouble and rendered good service as guides to tanks, springs and water pockets.

Feed for the animals was very scarce along the line and in the rough climbing east of the river the horses soon gave out and I had to procure others from the Indians and replace them again in a few days with fresh ones from the same source. The burros however, stood the trip well and by keeping them shod, they were able to get over some exceedingly rough trails and carry a good load.

My thanks are due to Augustus MacConnel of Elmira, N. Y. who did the astronomical work, for his great care and accuracy in his

department, for his untiring energy and unfailing cheerfulness in most disagreeable situations under the most trying circumstances. The privation and hardshps incident to, and unavoidin a trip through a desert region, though a man over sixty years of age, he withstood the rigors of camp, walked the whole 277 miles and carried the sideral chronometer in his hand so solicitous was he for the accurate performance of his part of the work.

I wish to acknowledge the services of J. Frank Warner of Cheyenne, Wyo. transit man, for his great care and indomitable energy in projecting the line over a country abounding in difficulties.

I also wish to thank Oscar McClellan of Red Bank, Wyo. who had charge of the transportation and supplies. Much is owing to his good judgment, great energy and untiring zeal and courage that we were enabled to penetrate such a region and carry the work through to a successful termination.

R. G. Schnitger and E. P. Blanchard of Cheyenne, Wyo. chainmen of over five years experience on the public land surveys, took great interest in their work.

Mormon A. Shumway of Kanab, Utah had charge of the corner gang and took great pains in his work.

Each and every man did his duty faithfully and stood by the work and one another and took the hardship, lack of water and inconveniences incident to an expedition through a country so nearly approaching a desert, in a manner worthy of praise, and for which I wish to express my greatest appreciation.

The party was disbanded in the desert many miles from any town. The members departing for their homes in different states and travelling in different directions. No officer authorized to administer oaths, other than myself being available without great inconvenience, delay and expense, I administered the required final oaths under the provisions of the Manual, page 64.

Howard B Carpenter U.S. Surveyor and astronomer

BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

FINAL OATHS.

Oaths for survey of the Boundary Line between the State of Utah and the Territory of Arizona.

United States Surveyor in surveying all those parts and portions of the Boundary Line between the State of Utah and the Territory of Arizona which is 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 Hon. Commissioner of the General Land Office.

Augustus MacConnel. Osst. Astronomer.

J. Frank Warner.

Rex G. Schnitger.

Ed. P. Blanchard.

H. W. Gilbert.

Karl A. Snyder.

A. J. Smoots.

M. A. Shumway.

Bert Johanson.

I. V. Warner.

Murray H. Gilcrest.

A. L. Lemmon.

Transitman.

Chainman.

Chainman.

Chainman.

Chainman.

Axeman.

Moundman.

Moundman.

Rodman.

Flagman.

Flagman.

Subscribed and sworn to before me this first day of July A. D. 1901.

Rigned) Howard B. Carpenter.

U. S. Surveyor. & atronomer.

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FINAL OATHS.

I. Augustus MacConnel, do hereby certify that I assisted Howard B. Carpenter U. S. Surveyor and Astronomer in the establishment of the 37th Parallel of North Latitude. Between the 32nd, and 37th Meridians West from Washington, the same being the boundary line between the State of Utah and the Territory of Arizona, done under his contract with the Acting Commissioner of the General Land Office, dated October 13th, 1900. That I made the astronomical observations for latitude and that the said boundary line was established in strict conformity to the instructions furnished by the said Commissioner to the best of my knowledge and belief; and I do solemnly swear that the foregoing are the true field notes of said astronomical observations made by me.

(Higned) Augustus MacConnel.

Assistant Astronomer.

Sworn to and subscribed before me by Augustus MacConnel on this 18th day of February, A. D. 1902.

(Signed) J. M. Alexander.
County Cl
(Seal)
Chil

County Clerk.

Childress County, Texas.

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BOUNDARY LINE BETWEEN THE STATE OF UTAH AND THE TERRITORY OF ARIZONA.

FINAL OATH OF U. S. SURVEYOR AND ASTRONOMER.

I, Howard B. Carpenter United States Surveyor and Astronomer, dosolemnly swear that in pursuance of a contract with Hon. W. A. Richards, Acting Commissioner of the General Land Office bearing date of October 13th, 1900. And in strict comformity to the laws of the United S tates and the instructions furnished me by the said Commissioner, I have well, faithfully and truly in my own proper person, surveyed, marked and established the Boundary Line between the State of Utah and the Territory of Arizona, the same being that portion of the 37th parallel of latitude north of the Equator included between the 32nd and the 37th meridian west from Washington 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 said Hon. Acting Commissioner and in the specific manner described in the field notes and that the foregoing are the true field notes and astronomical notes of such survey, and should any fraud be detected I will suffer the penalty of perjury under the provisions of an Act of Congress approved August 8th 1846.

Howard B. Carpenter.
United States Surveyor and Astronomer.

			this Tefth	day
Subscribed and sworn to	before	me	this equal	
of March	A.	D.	1902.	



Triplicate

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Approvaz

General Land Office

April 9th 1902

The fore-going field notes of the survey of
the Boundary Line between the Territory of
Arizona and the state of Utah, being the 32°
Parallel of North Liatitude, between the 32° and
32° Longitude, West from Washington, executed
by Howard. B. Carpenter U.S. Surveyor and
Astronomer, under his contract dated October
13th 1900 having Been critically examined and
the necessary corrections and explanations
made, the said field notes, and the surveys
they discribe, are here by approved—
Lings Arman

I certify that the foregoing transcript of the field notes of the place above-discribed survey of the bound pry line between Arizona and Istah has been correctly copied from the original motes on tile in this office from the original motes on tile in this office

Commissioner





FIRST ASTRONOMICAL STATION, NEAR THE OLD JAMES MONUMENT. View to the north.



THE OLD, JAMES MONUMENT.

View to the west. Now destroyed.



THE INITIAL CORNER.

On the east line of Nevada. View to the N. W.



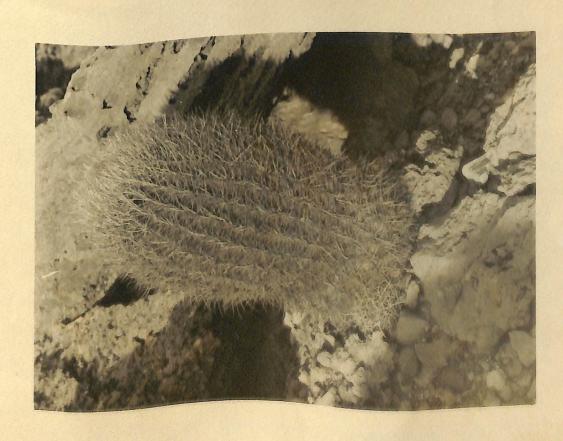
View to the west from the 13th mile corner.

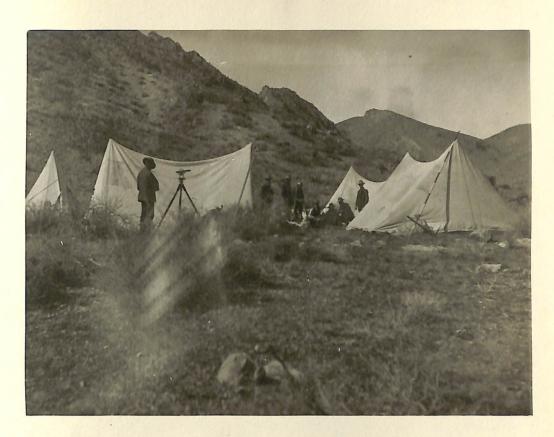
Beaver Dam Mourtains

BOOK 2628



YUCCA DRAGONIS OR SPANISH BAYONET.

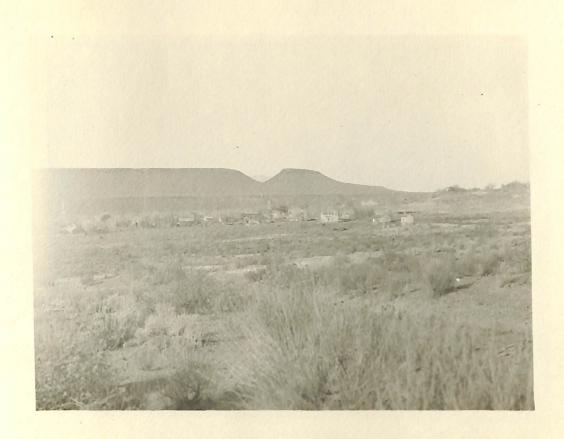




CAMP IN RED CANON. North of the 15th mile.



EAST WALL OF RED CANON. Near 15th mile corner. View to the N. E.



ST. GEORGE, UTAH.

North half of town. View to the west.



ST. GEORGE,,UTAH.

South half of town showing Mormon Temple. View to the S.W.

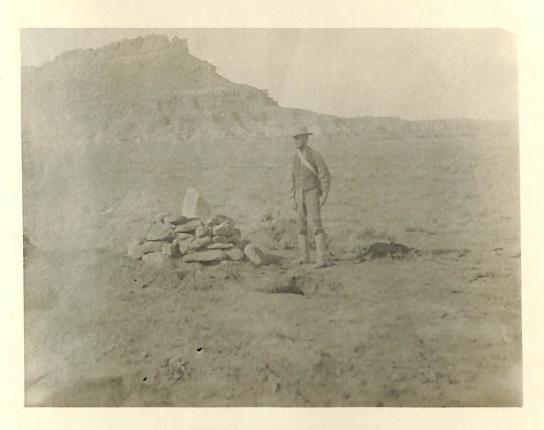


CAMP IN HERD HOUSE CORRAL.

Near 32nd mile corner.



BURRO PACK ANIMALS.



SECOND ASTRONOMICAL MONUMENT.

At the 51st mile corner. View to the S. W.



From 51st Mile Corner.

View to the N. E. toward Canaan Springs.



AT SHORT CREEK.

South of 60th mile corner. View to the N. E.



POINT OF CLIFF.
South of 53rd mile corner.



THIRD ASTRONOMICAL MONUMENT.

At the 94th mile corner. View to the N. W.



CASTLE ROCK.

View to the north from the 143rd mile corner.



THE COLORADO RIVER CAÑON.

From a point on the line at the mouth of warm Creek.

View to the N. E.



THE RIVER CAÑON.

From the same point. View to the south.



Horse Swimming the Colorado River behind the Boat.



Towing the boat up stream in order to make landing in patch of willows on opposite bank.



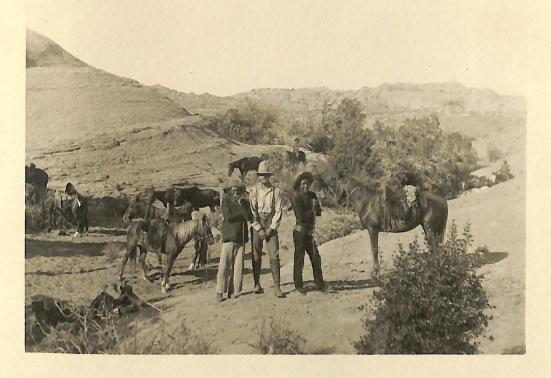
CHIMNEY ROCK.

On west side of the Colorado River, near the Ute Crossing.

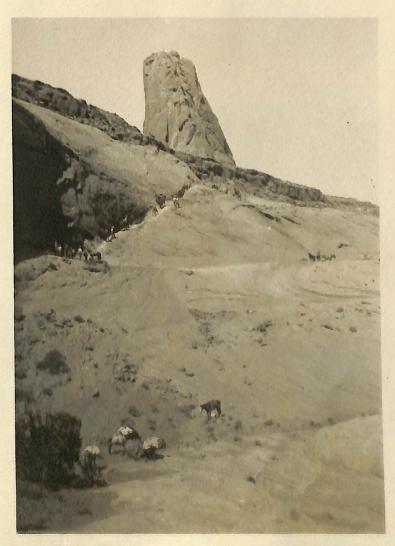


STATE LINE BUTTE.

On the 153rd mile. The line passes over the apex.



Near water pockets in denuded sandstone region south of 165th mile corner.



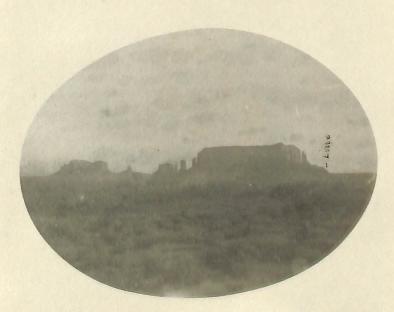
A difficult Navajo trail about 6 miles south of the 160th mile corner. Bare sandstone.



MONUMENT PASS.

South of the 218th mile corner.

The monument on the left is Ragged Top.



MONUMENT PASS.

216th mile. View to the N. E. The line passes over the foot of the long butte, at south edge.



MONUMENT PASS. View to the N. W. from a point 5 miles south of the line.



NEEDLES About 5 miles south of the line, near Monument Pass.



SENTINEL ROCK.

North of the 138th mile corner.



COPPER CAÑON.

North of the line. View to the south.



The Tower 1300 ft. high.
South of the 151 mile corner.



The Obelish 700 ft high. See field notes of the 200 mile

318.-125.00 cho Lat 37°N BOOK 5628 679

318 A BOOK 2628 43714 3.72 093 45 m + 4 × 0