4-679.

Book A

accepted - Letter E - 9/20/1.

BCOK 2192

FIELD NOTES

2192	OF THE SURVEY OF THE	2192
Roth,	South and East Wou	ndaries
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and the	Cast Boundary of Vo	waship
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Of the X	lad Sall (Tirke V Sase O Merid	lian,
. The	Verritory of Cerizon	al
	AS SURVEYED BY	•
$\sqrt{\chi}$		
- Suea	W. Podoff, United States	Deputy Surveyor,
Under his Contract No.	155 dated March	<u>/0</u> , 1909
	Recember 15	
No. of the second secon		
Survey completed	December 23	, 190 9
6—151	\mathbf{M}_{00}	

2192



BCCK 2192

NAMES AND DUTIES OF ASSISTANTS.

a.C. Kerno.	Chainman
	Kairman
But Lyon, Palph R. Ellio	Moundman
R. N. Stark	Mman
J. M. Oarker	axman
Lorge Hewell	Klayman
, , , , , , , , , , , , , , , , , , , ,	·
6—151	

FCOK 2192

INDEX DIAGRAM.

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Meanders Page.....

BCOK 2192

PRELIMINARY OATHS OF ASSISTANTS.

WE, a.P. Kerns	and Bert Lyon)
	y execute the duties of channen; that we will level the
	the tally pins, either by sticking or dropping the same; that
	ojects, and the true lengths of all lines that we assist in
	in accordance with instructions given us, in the survey of
	1. Range 18W & East Bdy T2011. R/8W.
	Chainman:
	Oler py , Chainman.
Subscribed and sworn to before me this	
0 . 1	
day of <i>Alexander</i> , 1909	Ill leseuch
SEAL A	Brotary Public
**************************************	amy vurie
WE, RalphR Ellis	and
do solemnly swear that we will well and truly	perform the duties of moundmen in the establishment
of corners, according to the instructions given u	s, to the best of our skill and ability, in the survey of
In S.E. 871. Bolyo. of T./9N	Calpha Elis, Moundman.
	Talad RELIE
	Moundman.
·	, Moundman.
Subscribed and sworn to before me this	
day of Secenter 1, 1909	
My commission of the classes 29, 1918	'Melerench
******* ** SEAL (** **********************************	Water Carlota
	Dian a
WE, A. M. Stark	and X M. Carker
	form the duties of axmen in the establishment of corners
and other duties, according to instructions given	us, to the best of our skill and ability, in the survey of
The D. E. & M. Ddys of Wp. 19	M. Rg 1810, and EBdy of T20NR. 184 Ruston Axman. TM Parker, Axman.
	Rustante
	The De L
•	Axman.
Subscribed and sworn to before me this)
day of <u>Secendral</u> , 1907	S March 1
My Designation to produce the second 24, 1416	My Gererich Notary Public
* SEAT W	Artury Public
I. George Newell	
, - /	, do solemnly swear that I will well and truly
perform the duties of flagman according to instruct	etions given me, to the best of my skill and ability, in the
survey of Mr. D. C. M. algo, of 7, 19	1. N. 18W. 8, 4p. 2011, Vrg 18 W.
	H.R. 18W. & Tp. 20H., Rg 18 W. Leorge Hersell, Flagman.
	Tagman.
Subscribed and sworn to before me this	
day of Aleember, 1909) Quel '
A Line of the second se	on yevench.
(M) SEAL (M)	nothing Sublic

BOOK 2192

10 N Pc

chain s

Survey commenced December 15,1909, and excuted with a Young and Sons light mountain transit No.7532, with solar attachment. The horizontal limb is provided with two double veriners placed opposite to each other, reading to single minutes of arc, which is also the least count of the veriners of latitude and declinatio arcs.

The instrument was examined, tested on the true'm meridian at Phoenix, found. correct and was approved by the Surveyor General for Arizona.

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

mined by observations on Polaris, I proceed as follows; Exact the cor. of Tps. 18 and 19 N., Rgs. 18 and 19 W, latitude 34°59'10"N., longitude 114°12'25" W.; I set off 34°59'N, on the lat.arc., 23°/3' S. on the decl.arc and at 3 h., 30 m., p.m., l.m.t., determine a meridian with the solar and mark a point thereof, on a stone firmly set in the ground 5 chs. N. off the cor.

December 15.

December 16,1909; At 1 h.47 m.,a.m.,by my watch which has correct 1.m.t.,I observe polaris at western elongation in accordance with thw Manual of Instructions and mark a point in the line thus determined on a peg driven in the ground 5 chs, N. of my station.

At 8 h.00 m.,a.m.,l.m.t.,I hay off the azimuth of Polaris;1°26'to the mast, and mark the meridian thus determined by a small cross on the rock set December 15, on which the meridian coincides with the meridian determined by the solar.

At 8h.90 m., a.m., l.m.t., I set off 34°59'N. on the lat.arc; 23'/5' S. on the decl arc; and mark a point in the meridian determined by the solar, by a small groove in the stone already set 5 chs. N. of my station; this mark coincides with the meridian established by P Polaris observation.

The solar apparatus, by a.m., and p.m., observations defines positions for meridians which coincide with the meridian established by Polaris observations; therefor I conclude that the adjustments of the instrument are satisfactory.

The magnetic bearing of the true meridian at 8h. 30m., a.m., is #315908'W.; the angle thus determined gives the magnetic declination as 15°08'E.

From the Tp.cor. already desc., I run Eastibet.secs.6 and 31,

Desc. E. slope of Black Mts. over loose malpais rocks thru dense underbrush.

38.97

Set a malpais stone, 28x10x8ins..2lins.in the ground, for \$\frac{1}{2}\$ sec.cor., marked \$\frac{1}{2}\$ on N.face; and raise a mound of st stone, 2ft.base, 1\frac{1}{2}\$ ft.high, N. of cor. Pits impraticable Set a malpais stone, 20x10x8ins., 15ins., in the ground, for cor. of secs. 5, 6, 31 and 32, marked with 5 notches on the E. and 1 notch on the W, edge; and raise a mound of stone, 2ft.base, 1\frac{1}{2}\$ft.high W, of cor. Pits impraticable Land, mountainous and rocky.

Soil, rocky: 4th rate.

No timber.

Underbrush, greasewood and catclaw.

Land mountainous, covered with loose rocks and dense underbrush, and on abcount of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey 78.97chs

78.97

 	South Bay.or Tp.19 M., Mg. 18 Mest.
chains	Thence I run
0.10.22	East bet.secs.5 and 32,
	Descend & slope of mointaimsuover loose rocks thru
	dense underbrush.
30.70	Wash, 25 lks. wide, course SE. acs. over loose rocks.
35.00 40.00	Top of ridge, bears NW. and SE, Desc. over loose rocks. Set a mappais stone, 18x10x6ins., 12ins., in the ground,
#U • 1/2/	for \(\frac{1}{4}\) sec.cor., marked \(\frac{1}{4}\) on N.face; and raise a mound of
	stone, 2ft. base, 1 ft. high N. of cor. Pits impraticable.
53.75	Wash, 10 lks. wide, course SE.
73.60	Wash, 30 lks, wide, course SE.
80.00	Set a malpais stone, 24x10x8ins., 18ins.in the ground, for
	cor. of secs.4,5,32 and 33, marked with 2 notches on W.
	and 4 notches on the E. edge; and raise a mound of stone
	2ft.base,l\frac{1}{2}ft.high, W. of cor. Pits impraticable. Land, mountainous.
	Soil, rocky; 4th rate.
	No timber.
	Underbrush, greasewood, catclaw and catti.
	Landmountainous, covered with loose rocks and dense unde
	brush, and on account of the scarcity of water and other
	reasons more fully explained at the end of these notes,
	exceptionally difficult to survey, 80.00 chs.
	At this cor. I set off 23'/3' S., on the dec.arc; and
	observe the sun on the meridian at noon; the resulting
	latitude is 34°59'N.
	Thence I run East bet.secs.4 and 33
1.50	was bescend over loosekrocks thrundense underbrush.
19.00	Sacramento Washelrockes. wide, course S. Asc. steep stope
	over loose rocks.
30.00	Over broken land covered with loose rocks. Set a malpais stone, 15x12x8ins., 10ins.in the ground, for
40,00	\frac{1}{4} \text{ sec.cer.,marked \frac{1}{4} \text{ on N, face; and dig pits,18x18x12ins.}
	E. and W. of stone, 3ft. dist.; and raise a mound of earth
	3ift.base, light.high N. of cor.
53.50	Wash, 40 1ks. wide, course SW. Asc. steep slope over
	loese malpais rocks.
63.00	Top of ridge, bears NE. and SW.; Desc. steep slope over 1
68.20	Wash, 25 lks. wide, course SW. Asc. steep slope over loose
00.20	malpais rocks.
80.00	Set a mappais stone, 24x5x5ins., 18ins.in the ground, for
	cor. of secs. 3,4,33 and 34; marked with 3 notches on the
	E. and W. edges; and raise a mound of stones, 2ft. base,
	lt ft.high, w. of cor. Pits impraticable.
	Land, mountainous.
	Soil, rocky; 4th rate. No timber.
	Underbrush, greasewood, catclaw and cacti.
	Lahd, mountainous, covered with loose rocks and dense
	underbrush, and on account of the scarcity of water and
	other reasons more fully explained at the end of these
	notes, exceptionally difficult to survey, 80,00 chs.
	December, 16, 1909.
	December 17; At 8 h 00 m.,a.m.,l.m.t.,I set off 23 47%'
	S. on the decl.arc; 34°59'N. on the lat.arc and deter
	mbned a meridian with the solar at the cor. of secs.
	3,4,33 and 34:
	Thence I run
	East bet. secs.3 and 34.
	Over rolling land covered with loose malpais rocks
9.35	Wash 20 lks.wide.course SW. Asc.over loose rocks.
20.00	Top of ridge, bears NE. and SW. Desc. over loose rocks
31.55	Wash, 25 1ks, widemoourse SW. Asc. over loose rocks.

chains. 40.00 Set a malpais stone, 24x12x8ins., 18ins.in the ground, for Wash, lo lks. wide, course SW. 41.00 47.00 Top of ridge, bears NE. and Sw., Desc. over loose rocks. 54.85 Wash, 30 lks. wide, course SW. Ass. over loose rocks. Top of ridge.bears ME.and SW. Desc.over loose rocks. Across wash, course SW. 62.00 63.00 75.50 Leave wash, course Sw. Asc.over loose rocks. 80.00 Set a malpais stone, 20x8x8ins., 15ins.in the ground, for cor. of secs.2,3,34 and 35; marked with 2 notches on the E., and 4 notches on the W. edge,; and raise a mound of stone, 2ft. base, 1 ft. high W. of cor. Pits impraticable. Land, rolling and mountainous. Soil, stony and rocky; 3rd. and 4th rate. Nomtimper. Underbrush, greasewood, sage, catclaw and cacti. Land, rolling and mountainous, covered with loose rocks and dense underbrush, and, on account of the scarcity of water and for other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. Thence I run East bet. secs. 2 and 35, Over rolling land covered with loose rocks thru dense underbrush. 40.00 Set a mappais stone, 15x8x8ins., 10ins.in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high N. of cor. Pits impraticable. wash, 30 lks. wide, course cw. 57.45 15 ins Set a malpais stone, 20x10x10ins. in the ground, for 80.00 cor of secs.1,2,35 and 36, marked with 1 notch on E. and 5 notches on the W. edges. and raise a mound of stone, 2ft.base, 14 ft.high, W. of cor. Pits impraticable. Land, rolling. Soil, rocky; 3rd rate. No timber. Underbrush, greasew od, sage, and cacti. Rolling land covered with loose rocks and dense underbrush, and, encaccount of the scarcity of water and for other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 ch At this cor. I set off 25.20% S. on the decl.arc and observe the sun on the meridian at noon; the resulting latitude is 34°59'N. Thence I run East bet.secs.1 and 36, Over rolling land covered with loose rocks thru dense underbrush. 10.25 Wash, 15 lks. wide, course SW. Aasc. over loose rocks. 15.00 Top of ridge, bears NE. and SW. Desc. over loose rocks. 19.20 Wash, 20 lks. wide, course SW. Asc over loose rocks. 26.00 Top of ridge, bears NE. and SW. Desc. over loose rocks. 30.85 Wash, 40 lks. wide, course SW. Asc 2.0 per loose rocks. 36.00 Top of ridge, bears NE. and Sw. Desc. over loose rocks. wash, 10 lks. widemcourse Sw. Asc. over loose rocks. 38.10 40.00 Set a malpais stone, 24x10x8ins., 18ins.in the ground, for sec.cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stone, 2ft. base, lift. high, N. of cor. Pits impraticable. 44.00 wash, 50 lks. wide, course Sw. Asc. over loose rocks Top of ridge, bears WF. and Sw. Desc. over loose rocks. Wash, 100 lks. wide, course Sw. Asc. over loose rocks. 54.00 67.25 Set a quartzite stone, 32x14x14ins., 24ins.in the ground 80.00 for cor. of Tps. 18 and 19 N, Rgs. 17 and 18 W., marked 19 N on NE, 17 W on SE., 18 N on SW., and 18 W on NW. face, with 6 notches on the N, S, E, and W edges, and raise a mound of stone, 2ft. base 1 ft. high, S. of cor.

Survey of the South Bdy. of Tp. 19 N., Rg. 18 West.

chains

Pits impraticable.

Land, rolling and mountainous.

Soil, rocky; 3rd rate.

No timber.

Underbrush, greasewood, catclaw, sage and cacti.
Rolling and mountainous land covered with loose rocks and dense underbrush, and, on account of the scarcity of water and for other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.

December 17,1909.

		Survey of the East Rdy of Tp.19 N. Rg.18 West.
C	hains.	December 19 1909: 14 Ch 00m c m 1 m 4 T set off 84
		December 18,1909; At 8h 00m.a.m., l.m.t., I set off 34' 59'N. on the lat.arc; 23'/9%'S., on the decl.arc and deter
		mine a meridian with the solar at the cor. of Tps.18, and
	-	19,N.,Rgs.17 and 18 West, recently established by me.
		Thence I run
	f	North bet.secs.31 and 36. Over rolling and broken land covered with loose rocks
		thru dense underbrush.
	0.75	wash, 50 lks. wide, course Sw. Asc. over loose rocks.
	30.38	wash, 40 lks. wide, course Sw! Over loose rocks.
	38.90	wash, 60 lks. wide, course Sw. Over loose rocks.
	40.00	Wethasmalhaisistons, 20m8x8ins. 15ins. in the ground, for
	40.00	\$ sec.cor. marked \$\frac{1}{2}\$ on W. face; and raise a mound of :
		stone, 2ft. base, 1+ft. high, w. of cor. Pits impraticable.
	70.00	Wash, 20 lks. wide, course Sw. over loose rocks.
	76.45	Wash.20 lks.wide.course SW. Over loose rocks.
	80.00	Set a malpais stone, 24x10x7ins., 18ins.in the ground, for
		Ser. of secs. 25,30,31 and 36, marked with 1 notch on the
•		S. and 5 notches on the N. edge; and raise a mound of
		stone, 2ft. base, 1 ft. high, W. of cor. Pits impraticable.
		Land, rolling and broken.
		No timber,
		Soil, rocky; 3rd rate.
		Underbrush, greasewood, sage and cacti.
		Rolling and broken land covered with loose rocks and
		dense underbrush, and, on account of the scarcity of w
		water and for other reasons more fully explained at the
		end of these notes, exceptionally difficult to survey,
		80.00 chs.
		Thence I run
		North bet.secs.25 and 30.
		Over slightly rolling land covered with loose rocks
		and dense underbrush.
	19.25	wash, 20 lks. wide, course SW. Over loose rocks.
	30.00	wash, 200 lks. wide, course Sw. Over loose rocks
	40.00	set a malpais stone, 15x12x8ins., 10ins.in the ground, for
	40.00	½ sec.cor., marked ¼ on w, face; and raise a mound of
		stone, 2ft. base, 11 ft. high, w. of cor. Pits impraticable.
	65.40	wash, 30 lks. wide, course Sw. Over loose rocks.
	80.00	set a malpais stone, 24x8x8ins., l8ins. in the ground, for
	3000	cor. of secs. 19,24,25 and 30; marked with 2 notehes on the
		S. and 4 notches on the N. edge; and raise a mound of
		stone, 2ft. base, 1/ft. high. W' of cor. Pits impraticable.
		Land.slightly rolling.
		Soil, rocky; 3rd.rate.
		No timber.
		Underbrush, greasewood, sage and cacti.
		Slightly rolling land covered with loose rocks and
		dense underbrush, and, on account of the scarcity of water
		and other reasons more fully explained at the end of t
		these field notes, exceptionally difficult to survey,
		80.00 chs.
	* *	At this cor. I set off 23°221/2S. on the decl.arc and
		observe the sun on the meridian at noon; the resulting
		lat.is 35'01'N.
•		Thence I run
		North bet.secs.19 and 24.
		Over slightly rolling land covered with loose rocks thru
		dense underbrush.
	3.35	Wash, 20 lks. wide, course SW. Over loose rocks.
	31.00	Wash, 20 lks. wide, course SW. Over loose rocks.
	40.00	set a malpais stone, 18x10x8ins. 12ins.in the ground, for
		$\frac{1}{4}$ sec. cor. marked $\frac{1}{4}$ on W. face; and raise a mound of ston
		2ft.base, lift.high, w. of cor. Pits impraticable.
	44.75	wash, 20 lks. wide, course SW. over loose rocks.
	58.00	wash, 20 lks. wide, course SW, Over loose rocks.
	79.30	wash, 20 lks.wde, course w. over loose rocks.

Survey of the East Bdy.of Tp.19 N., Rg. 18 West.

chains. Set a malpais stone, 20x6x6ins., 15ins.in the ground, for 80.00 cor. of secs.13,18,19 and 24; marked with 3 notches on the N. and S edges; and raise a mound of stone,2ft. base,12ft.high, w. of cor. Pits impraticable. Land, slightly rolling. Soil, rocky; 3rd.rate. No timber. Underbrush, grease wood, sage, catclaw and cacti. Shightly rolling land comered with loose rocks and dense underbrush, and, on account of the scarcity of water and for other reasons more fully explained at the endof these field notes, exceptionally difficult to survey 80.00 chs. December 18,1909. December 19; At 8h.00m.,a.m.,l.m.t.,I set off 35°02'N, om the lat.arc; $23^{\prime 2}$ 'S. on the decl.arc, and determine a meridian with the sekar at the cor. of secs.13,18,19 and Thence I run North bet.secs.13 and 18. Over slightly rolling land covered with loose rocks thru dense underbrush. Wash, 20 1ks. wide, course SW. Over loose rocks. 7.00 Wash, 20 lks. wide, codrse SW, Over loose rocks. 21.45 set a malpais stone, 15x8x6ins., 10ins.in the ground, for 40.00 $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; dig pits, 18118x12ins., N. and S. of stone, 3ft. dist., and raise a mound of earth, 32ft. base, 12ft. high. W.of cor. wash, 15 lks. wide, course sw. Over loose rocks. 64.45 wash, 15 lks. wide, course SW. Over loose rocks. 71.50 set a malpais stone, 20x8x6ins., 15ina. in the ground, for 80.00 cor. of secs. 7,12,13 and 18; marked with 2 notches on the N., and 4 notches on the S. edge; and raise a mound of stone, 2ft. base, 1 ft. high, w. of cor. Pits impraticable. Land, slightly rolling. Soil, rocky; 3rd.rate. No timber, Underbrush, greasewood, sage and cacti. Slightly rolling land covered with loose rocks and dense underbrush, and, on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. Thence I run North bet.secs.12 and 7. Over rolling land co ered with loose rocks thru dense underbrush. Wash, 20 1ks. wide, course SW. Over loose rocks. 7.18 Wash, 20 lks. wide, course SW. Over loose rocks. 25.80 Wash, 20 1ks. wide, course SW. Over loose rocks. Wash, 20 1ks. wide, course SW. Over loose rocks. 34.25 37.30 set a malpais stone, 18x8x8ins., 12ins.in the ground, 40.00 for $\frac{1}{4}$ sec. cor., arked $\frac{1}{4}$ on W. face; and raise a mound of stone, 2ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impraticable. Wash, 35 lks. wide, course SW. Over loose rocks. Wash, 20 lks. wide, course SW. Over loose rocks. 42.00 48.00 Wash, 20 lks. wide, ourse SW. Over loose rocks. 59.18 wash, 20 lks. wide, course SW. Over loose rocks. 64.20 wash, 20 1ks. wide, course gw. Over loose rocks. 70.30 Wash, 20 lks. wide, course SW. Over loose rocks. 73.35 set a malpais stone, 18x12x10ins., 12ins.in the ground 80.00 for cor. of secs.1,6,7 and 12; marked with 1 notch on the N. and 5 notches on the S. edges; dig pits, 18x18x12ins., in each sec. 5 ft. dist.; and raise a mound of earth, 4ft.

base, 2ft. high, w. of cor.

chains.

30.20

65.75 67.05 80.00

Land, rolling.

Sail, rocky; 3rd rate.

No timber,

Underbrush, greasewood, sage and cacti.

Rolling land covered with loose Vocks and dense underbrush, and, on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs.
At this cor. I set off 23'24' / S. on the decl. arc; and

observe the sun on the meridian at noon; the resulting lat.is 35 03 N.

Thence I run

Morth bet.secs.1 and 6.

Over slightly rolling land covered with loose rocks thru dense underbrush.

Wash, 15 1ks. wide, course SW. Over loose rocks. 1.30

Wash, 15 lks. wide, course SW. Over loose rocks. 10.35

14.00 Wash, 15 1ks. wide, course SW. Over loose rocks. 17.55

Wash, 15 lks. wide, course SW. Over loose rocks. Wash, 15 lks. wide, course SW. Over loose rocks. Wash, 15 lks. wide, course SW. Over loose rocks.

37.60 40.00

Set a malpais stone, 18x8x8ins., 12ins. in the ground, for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; and raise a mound of stone,2ft.base,1½ft.high, W. of cor. Pits impraticable. Wash,20 lks.widercourse SW. Over loose rocks. Wash,20 lks.wide,course SW. Over loose rocks.

Set a malpais stone, 18x10x10ins., 12ins.in the ground for cor. of Tps.19 and 20 N., Rg.17 and 18.W.marked 20 N on NE,, 17 W on SE., 19 N on SW., and 18 W on NW., face, with 6 notches on N.S.E. and W edges; and raise a mound of stone,2ft.base, 1 ft.high, S. of cor. Pits impraticable.

Land, slightly rolling.

Soil, rocky: 3rd rate.

No timber.

Underbrush, greasewood, sage, cacti.

Slightly rolling land covered with loose rocks and dense underbrush, and, on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. December 19,1909;

chains. December 20;1909. At 8h 00m., a.m., l.m.t., I set off 35 $04\frac{1}{2}$ N. on the lat.arc; 23 22 S. on the decl.arc; and determine a meridian with the solar at the cor. of Tps.19 and 20 N., Rgs.17 and 18 W.; Thence I run west on a random line, along the N.bdy.ef Tp.19 N., R.18 W., setting temp. 1 sec. and sec. cors. at intervals of 40.00 chs.; and at 479.17chs.intersect the 5th Guide Meridian west at a point 110 lks.5. of the cor. of Tps.19 and 20 N., Rs.18 and 19 W., which is a malpais stone,8x8x6ins., above ground, marked and witnessed as described by the Surveyor General. The falling answers to a correction of 0°08', therefore I run \$ 89°52'E. on true line bet.secs.6 and 31. Slowly descend thru dense underbrush. 7.00 Wash, 15 lks. wide, course SE. 32.30 wash, 15 lks. wide, course SE. Set a malpais stone, 20x10x5ins, 15ins.in the ground, for $\frac{1}{4}$ sec. cer. marked $\frac{1}{4}$ on W. face; dig pits, 18x18x12ins. E. and W. of stone, 3ft.dist; and raise a mound of earth 39.17 E. and W. of stone, or t. u.s., ... 3 ft. base, 1 ft. high, N. of cor. Wash, 20 lks. wide, course SE. Wash, 200 lks. wide, course, S. 53.90 58.45 79.17 Set a malagis stone, 18x8x6ins., 12ins.in the ground, for cor, of sess. 5,6,31 and 32; marked With 1 notch on W. and 5 notches on E. edge; dig pits, 18x18x12ins., in each sec, $5\frac{1}{2}ft.dist.$; and raise a mound of earth, 4ft.base,2ft.high, W. of cor. Land, slightly rolling. Soil, gravelly and rocky; 3rd rate. No timber. Underbrush, greasewood, sage and catclaw. Slightly rolling land covered with dense underbrush and, on account of the scarcity of water and other reason more fully explained at the end of these notes, exception, ally difficult to survey, 79.17 chs. At this cor. I set off 23°25'S. on the decl. arc and observe the sun on the meridian at noon; the resulting lat.is 35°04½' N. Thence I run 8 89°52'E. bet.secs.5 and 32. Over slightly relling land thru dense underbrush. Wash, 60 lks. wide, course SM. 8.40 Wash, 30 lks. wide, course SE, 9.40 Wash, 20 lks. wide, course SM. 13.45 Road, Kingman to Goldroads, bears NE. and SW. **37.**35 Telephone line, bears NE. and SW. 37.90 Set malpais stone, 18x10x8ins...12ins.in the ground, for 40.00 1 sec.cor., marked 1 on N. face; dig pits, lax lax lains., E. and W. of stone, Sft. dist.; and raise a mound of earth 31 ft. base, 11 ft. high, N. of cor. 40.18 Wash, 10 lks. wide, course SE. Sacramento wash, 350 lks. wide, course S. 46.00 49.61 Transmission line, bears NE. and SW. 65.90 Wash, 20 lks. wide, course SW. Set a malpais stone, 18x8x8ins., 12ins.in the ground, 80.00 for cor. of secs. 4,5,32 and 33, marked with 2 notches on W. and 4 notches on E. edge; dig pits,18x18x12ins.,in each sec., $5\frac{1}{2}$ ft.dist.; and raise a mound of earth.4ft. base, 2ft. high, W. of cor. Land, slightly rolling. Soil, gravelly; 3rd. rate. No timber. Underbrush, greasewood, sage, cacti and catclaw. slightly rolling land covered with exceptionally dense underbrush, and, on account of the scarcity of water and other reasons more fully explained at the end

of these notes, exceptionally difficult to survey, 80.00ch.

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Survey of the North Rdy of To 19 N. Rg. 18 West
chai na
              Thence I run
              S 89.52 E. bet.secs. 4 and 33.
              Over nearly level land thru exceptionally dense
          underbrush.
          wash, 10 lks. wide, course Sw.
9.50
          wash, 15 lks. wide, course SW.
11.00
          wash, 20 lks. wide, course SW.
13.40
              set a malpais stone, 20x8x8ins., 15ins.in the ground,
40.00
          for \( \frac{1}{4} \) sec.cor, marked \( \frac{1}{4} \) on N.face; dig pits, 18x18x12ins., E. and W. of stone, 3 ft. dist.; and raise a mound of earth, 3\( \frac{1}{2} \) ft. base, 1\( \frac{1}{2} \) ft. high, N. of cor.
          Washml5 lks. wide, course Sw.
42175
          wash, 15 lks. wide, course Sw.
44.90
          Wash, 15 lks. wide, course SW. Wash, 15 lks. wide, course SW,
46.00
53.00
          Wash, 15 1ks. wide, course SW. Over loose rocks.
55.40
              set a malpais stone, 20x6x6ins., 15ins.in the ground,
80.00
          for cor. of secs. 3,4,33 and 34; marked with 3 notches on
          E.and W. edges; and raise a mound of stone, 2ft. base, 11 ft. high, W. of cor. Pits impraticable.
              Land, nearly level
              Seil, rocky; and gravelly; 3rd rate.
              No timber.
              Underbrush, greasewood, catclaw, sage and cacti.
              Land covered with loose rocks or dense underbrushand
          on account of the scarcity of water and other reasons
          mare fully explained at the end of these notes, exception
          ally difficult to survey, 80.00 chs.
                                                   December 20,1909.
          December 21; At 8h.00m., a.m., l.m.t., I set off 35^{\circ}04\frac{1}{2}. N. on the lat.arc; 23^{\circ}2^{\circ}k's on the decl arc, and determine
          a meridian with the solar at the corl of secs.3.4,33 and
              Thence I run
               g 89°52'E. bet.secs. and 34.
               Over nearly level land thru exceptionally dense
           underbrush.
           Wash, 15 lks. wide, course SW.
21.45
           wash,25 lks. wide, course Sw.
28.65
               set a malpais stone, 18x6x6ins., 12ins. in the ground,
40.00
          for 1 sec. cor., marked 1 on N. face; dig pits, 18x18x12ins E. and W. of stone, 3ft. dist.; and raise a mound of earth, 3ft. base, 1 ft. high. N. of cor.
           wash, 10 lks. wide, course Sw. wash, 15 lks. wide, course Sw.
41.20
52.80
           Wash, 15 lks. wide, course SW.
70.10
           wash, 25 lks. wide, course Sw.
72.32
               Set a malpais stone, 20x12x8ins., 15ins.in the ground,
80.00
           for cor. of secs.2,3,34 and 35.marked with 2 notches on E. and 4 notches on W. edges; dig pits,18x18x12ins.,in
           each sec.5 ft.dist.; and raise a mound of carth,4ft.
           base, 2ft. high, W. of cor.
               Land, nearly level.
               Soil, gravelly and stony; 3rd rate. No timber.
               Underbrush, greasewood, sage, cacti, and catclaw.
               Land cocered with exceptionally dense underbrush, and
           on account of the scarcity of water and other reasons
           more fully explained at the end of these notes, excepti-
           onally difficult to survey, 80.00 chs.
               Thence I run.
               8 89 52 E. bet.secs. 2 and 35.
               Slowly Ascending over loose rocks thru exceptionally
           dense underbrush.
           Wash, 15 lks. wide, course SW. Over loose rocks. Wash, 15 lks. wide, course SW. Over loose rocks.
  3.00
  8.35
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Survey of the North Bay.of Tp.19 N., Rg.18 West.

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chains.
18.00
          Wash, 15 1ks. wide, course SW. Over loose rocks.
          Wash, 15 lks. wide, course SW. Over loose rocks. Wash, 15 lks. wide, course SW. Over loose rocks.
18.75
34.74
              set a malpais stone, 18x8 v6ins., 12ins.in the ground,
40,00
          for 1 sec.cor., marked 1 on N. face; dig pits, 18x18x12ins
          E. and W. of stone, 3ft. dist; and raise a mound of sarth
          31 ft.base, 12ft. high, N. of cor.
         Wash, 20 lks. wide, course SW. Over loose rocks. Wash, 20 lks. wide, course SW. Over loose rocks. Wash, 20 lks. wide, course SW. Over loose rocks.
41.00
47.10
57.85
          wash, 20 1ks. wide, course Sw. Over loose rocks.
60.00
          wash, 20 lks. wide, course Sw. Over loose rocks.
70.15
          wash, 20 lks. wide, course SW. Over loose rocks. wash, 20 lks. wide, course SW. Over loose rocks.
75.15
76.45
              Set a malpais stone, 24x8x8ins., 18ins. in the ground,
80.00
          for cor. of secs. 1.2,35 and 36, marked with 1 notch on E.
          and 5 notches on w. edge.; and raise a mound of stone,
          2ft.base,1 ft.high, w. of cor. Pits impraticable.
              Land, rolling.
              Soil, rocky; 3rd rate.
              Mo timber,
              Underbrush, grease wood, sage, catclaw and cacti.
              Rolling land covered with loose rocks and exception-
          ally dense underbrush, and, on account of the scarcity
          of water and other reasons more fully explained at the
          end of these notes, exceptionallt difficult to survey,
          80.00 chs.
              At this cor. I set off 2325% S.on the decl. arc and
          observe the sun on the merdian at noon; the resulting
          lat.is 35°04 N.
              Thence I run
              S 89°52'E. bet.secs.1 and 36.
              Slowly ascend over loose rocks thru exceptionally
          dense underbrush.
          Wash, 20 lks. wide, course SW. Over loose rocks.
 1.35
          Wash, 20 lks. wide, course SW. Over loose rocks.
 5.80
          Wash, 50 lks. wide, course Sw. Over loose rocks. Wash, 15 lks wide, course Sw. Over loose rocks. Wash, 15 lks. wide, course Sw. Over loose rocks.
10.00
14.50
21.00
              Set a malpais stone. 24x10x8ins., 18ins.in the ground
40.00
          for \frac{1}{4} sec.cor., marked \frac{1}{4} on N. face; and raise a mound
          of stone, 2ft. base, 12 ft. high, N. of cor. Pits imptaticabl
          Wash, 30 lks. wide, cpurse Sw. Over loose rocks.
Wash, 15 lks. wide, course Sw. Over loose rocks.
Wash, 20. lks. wide, course Sw. over loose rocks.
Intersect the cor. of Bps. 19 and 20. N. Rgs. 17 and 18, W.
45.85
60.90
79.35
80.00
                                                peretapone described
              Land, rolling.
              Soil, rocky; 3rd rate,
              No timber.
              Underbrush, greasewood, sage, catclaw and cacti.
              Rolling land covered with loosed rocks and exception-
          ally dense underbrush, and or account of the scarcity
          of water and other reasons more fully explained at the
          end of these notes, exceptionally difficult to survey,
          80.00 chs.
                                                  December, 21, 1909.
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Boundaries of Tp.19 N., Rg.18 West.

Latitudes	, depar tures, ar	nd closing	errors	•		
			Latitu	des	Pepart	ures
Line designated	True bearing		N	S	E	**
F. Bdy. of T. 19 N., R. 18 W.	Fast	478.97.	Chs.	Chs	478.97	chs.
Bdy.T.19 N.,R. 18 W	North	480.00.	480.00		• • • • • •	
N.Bdy.T.19 N.,R.18 W	N 89°52'W	479.17	1/.12			479.17
th.G.Meridian W						. ,
	S 0°12'E					
	South	240.00	• • • • • •	240.00	• • • • • •	
Convergency	• • • • • • • • • • •		• • • • • •			0.51
Totals					479.24	
Error in lat	, , , , , , , , , , , , ,		480.64		in Dep.	0.44

GENERAL DESCRIPTION

T 18N., R. 18 W., is all Mountainous and covered with dense underbrush. No water in this Tp.

T 19 N., R 17 W., Is mountainous. Mineral in the E.

half of Tp. There is no water in this Tp.
T 19 N., R. 18 W. is rough and covered with dense

underbrush. There is no water in this Tp.
In order to obtain water while thaking this survey it was necessary to go a distance of 14 miles. The length of this hauf,28 miles to a trip, kept an extra team, wagon and man busy all the time. As it was necessary to make a road from each camp to the road on which the tank we obtained water from was located; and the fact that we had to keep 3 barrels of water on hand for camp use and camp and line team; it was impossible to move a camp to suit the work, and I had to work these lines from one camp, making long walks to and from work and materially cutting down the munber of miles run in a day.

Although most of these lines passed over ground co covered with loose rocks, the stones, were not large enouge to use for cor. rocks, and knowing that the most essential part of a survey, is the establishment of cors. which will not be easily destroyed, I employed an extra wagon, team, and man to haul rocks for cors.in preference to setting mounds of earth with deposits and stake in pitp which would have been easier and cost less, but would son have been obliterated. The average haul for rocks was 5 miles and kept the line team busy at all times.

The heavy snow fall here in the early had rotted out the grass, so Ifforced to buy and haul hay from Kingman for the extra teams made necessary by the scarcity of water and the hauling of rocks for the establishment of substantial cors.

The facts that these are partly maximum and the other partnearly maximun, far forse than ordinary intermediate, and the extra expenses and troubles incurred in properly excuting the survey of these Tp. exteriors; have made these lines very exceptionally difficult to survey, and I ask to be allowed to be allowed those rates.

> Gred W. Rodof U.S. Deputy Surveyor.

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Fast Rdy of Tn 20 M
                                                              Pr 18 West
chains.
           Necember 22,1909; At 8h.00m.,a.m.,l.m.t, I set off 35°042*Nion the lat.arc; 23'23'8. on the decl.arc; and
           determine a meridian with the solar at the cors, of Tps.
           19 and 20 N., Rgs. 17 and 18. W.,
               Thence I run
               North bet.secs.31 and 36.
           Over slightly rolling land covered with loose rocks thru exceptionally dense underbrush.
 1.70
           Wash, 15 1ks. wide, course SW. Over loose rocks.
           Wash, 20 lks. wide, course SW. Over loose rocks. Wash, 20 lks. wide, dourse SW. Over loose rocks. Wash, 20 lks. wide, course SW. Over loose rocks.
13.60
19.70
21.90
           Wash, 20 lks. wide, course SW. Over loose rocks.
25.10
           Wash, 20 lks. wide, course SW. Over loose rocks.
31.25,
           Set a malpais stone, 24x8x6ins., 18ins.in the ground, for \( \frac{1}{2} \) sec.cor..marked \( \frac{1}{2} \) on \( \mathbb{W} \), face; and raise a mound of stone, 2ft. base, 1\( \frac{1}{2} \) ft. high, \( \mathbb{W} \). of cor. Pits impraticable
40.00
           Wash, 35 lks. wide, course W. Over loose rocks.
40.50
43.00
           Wash, 20 1ks. wide, course W. Over loose rocks.
           Wash,75 lks.wide,course SW. Over loose rocks. Wash,20 lks.wide,course SW. Over loose rocks. Wash,15 lks.wide,course SW. Over loose rocks.
46.65
61.60
64.75
           wash, 15 1ks. wide, course Sw. Over loose rocks.
77.30
80.00
               Set a malpais stone, 20x10x8ins., 15ins.in the ground
           forcer. of secs. 25,30,31 and 36, marked with 5 notches
           on M. and 1 notch on the S,egde; and raise a mound of
           stone, 2ft. base, 1 ft. high, w. of cor. Pits impraticable
               Land, rolling.
               soil, rocky; 3rd rate.
               No timber.
               Underbrush, greasewood, sage, cacti and catclaw
               Rolling land covered with loose rocks and exception-
           ally dense underbrush, and on account of the scarcity of
           water and other reasons more fully explained at the end
           of these notes, exceptionally difficult to survey, 80.00 chs.
               Thence I run
               Northebetrsecs.25 and 30.
               Overibroken land covered with loose rocks thru
           exceptionally dense underbrush.
           Wash, 20 1ks. wide, course SW. Over loose rocks.
 6.00
           Wash, 20 1ks.wide, course SW. Over loose rocks. Wash, 20 1ks.wide, course SW. Over loose rocks. Wash, 20 1ks.wide, course SW. Over loose rocks.
10.60
20.35
22.75
           Wash, 20 1ks. wide, course SW. Over loose rocks.
26.24
          Set a malpais stone, 18x10x6 ins., 12 ins. in the ground for \frac{1}{4} sec. cor., marked \frac{1}{4} on W. face; and raise a mound of stone, 2ft. base, 1\frac{1}{6} ft. high, \mathbb{W}. of cor. Pits impraticable
40.00
           Wash, 15 lks. wide, course SW. Over loose rocks.
41.40
51.70
           Wash, 15 1ks. wide, course SW. Over loose rocks.
           Wash, 15 lks. wide, course SW. Over loose rocks. Wash, 20 lks. wide, course SW. Over loose rocks.
56.15
70.15
80.00
               Set a mappais stone, 15x8x8ins., 10ins.in the ground,
           for cor. of secs.19,24,25 and 30, marked with 2 notches
           on the S. and 4 notches on N. edge; dig puts, 18x18x12ins
           in each sec. 5\frac{1}{2} ft.dist.; and raise a mound of earth,
           4ft.base,2ft.high, w. of cor.
               Land, brokem and rolling. Soil, rocky; 3rd rate.
               wo timber.
               Underbrush, greasewood, sage, and cacti.
               Broken land covered with loose rocks and exceptionall
           dense underbrush, and on account of the scarcity of water
           and other reasons more fully explained, at the end of
           these notes, exceptionally difficult to survey, 80.00 chs.
               At this cor. I set off 23°25%'S. on the decl. arc and
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observe ℓ he sun on the meridian at noon; the resulting

lat.is 35°06'N./

Survey of the East Rdy.ofTp.20 N., Rg.18 West

OMALINE.	
1	Thence I run
	North batusets.19 and 24.
	Over slightly rolling land covered with loose rocks
	thru exceptionally dense underbrush.
7.50	Wash, 25 lks. wide, course SW. Over loose rocks.
22.45	Wash, 50 lks. wide, course Sw. Over loose rocks.
40.00	Set a malpais stone, 18x8x6ins., 12ins.in the ground,
	for $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on W. face; and raise a mound
	of stone, 2ft.base, 1 ft.high, W. of cor. Pits impratecable
80.00	Set a malpais stone, 20x12x12ins., 15ins.in the ground
	for cor. of secs.13,18,19 and 24., marked with 3 notches
	on the N. and S. edges; and raise a mound of stone,
	2ft.base, 1 ft.high, W. of cor. Pats impraticable.
	Land, slightly rolling.
	Soil, rocky; 3rd rate.
	No timber,
	Underbrush, greasewoof, sage, and cacti.
	Rolling land covered with loose rocks and exception
A CONTRACTOR OF THE CONTRACTOR	ally dense underbrush, and, on account of the scarcity
	of water and for other reasons more fully explained at
	the end of these notes, exceptionally difficult to sur-
	vey,80.00 chs.
	December, 22, 1909.
	December 23; At 8h.00m.,a.m.,l.m.t.,D set off 35'07'
	N. on the lat.arc; 23°224. S. on the decl.arc and determine
	a meridian with the solar at the cor. of secs.13,18,
	19 and 24.
	Thence I run
	North bet.secs. 13 and 18.
	Over slightly rolling land covered with loose rocks
	thru exceptionally dense underbrush.
7.20	Wash, 20 lks. wide, cour e SW. Over loose rocks,
14.10	Wash,100 lks.wide, course Sw. Over loose rocks.
29.32	Road, Kingman to Goldroads, bears NE. and Sw.
30.25.	Telephone line, bears NF. and SW.
40.00	Set a malpais stone, 18x6x6ins., 12ins.in the ground,
1000	for 1 sec.cor., marked 1 on w. face: dig pits, 18x18x12ins
	N. and S. of stone, 3 ft. dist.; and raise a mound of earth
	31 ft.base, 12 ft.high, W. of cor.
40.10	Transmission line, bears NE. and SW.
41.00	Ascend steep precepitious slope covered with loose
	rocks and boulders.
63.50	
	Top of E. end of high ridge, extends W. Desc, steep
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs. 7,12,13 and 18; marked with 2 notches
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs. 7, 12, 13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs. 7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , ln account of
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , 1n account of scarcity of water and other reasons more fully explained
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , ln account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft.base, 1½ ft.high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , ln account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey. 30,00 cbs.
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs. 7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft.base, 1½ ft.high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , In account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 30.00 chs. At this corli set off 23.25 S. on the decl. arc and
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , ln account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. At this corli set off 23.25 S. on the decl. arc and observe the sun on the meridian; the resulting lat. is
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80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , in account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 30.00 chs. At this corli set off 23°25'S. on the decl.arc and observe the sun on the meridian; the resulting lat.is 35°08'N. Thence I run
80.00	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , in account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 30.00 chs. At this corli set off 23.25. S. on the decl.arc and observe the sun on the meridian; the resulting lat.is 35.08. Thence I run worth bet. secs. 7 and 12.
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36.50	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins. in the ground for.cor. of secs. 7, 12, 13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft. base, 1½ ft. high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and, in account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 30.00 chs. At this corl set off 23.25's on the decl. arc and observe the sun on the meridian; the resulting lat. is 35°08'N. Thence I run North bet. secs. 7 and 12. Ower slightly rolling land covered with loose rocks thru exceptionally dense underbrush. Wash, 20 lks. wide, course W. Ower loose rocks.
	Top of E. end of high ridge, extends W. Desc, steep precepitious slope over loose rocks and boulders. Set a malpais stone, 20x12x10ins., 15ins.in the ground for.cor. of secs.7,12,13 and 18; marked with 2 notches on N. and 4 notches on S. edge; and raise a mound of stone, 2ft.base, 1½ ft.high, W. of cor. Pits impraticable. Land, rolling and mountainous. Scil, rocky; 3rd and 4th rate. No timber. Underbrush, greasewood, sage, and cacti. Land mountainous and rolling covered with loose rocks and exceptionally dense underbrush, and , ln account of scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. At this corli set off 23°25'S. on the decl.arc and observe the sun on the meridian; the resulting lat.is 35'08'N. Thence I run North bet.secs.7 and 12. Over slightly rolling land covered with loose rocks thru exceptionally dense underbrush.

chains. stone, 2ft. base, 12 ft. high, w. of cor. Pits impraticable. wash, 20 lks. wide, course Nw. Over loose rocks. 50.70 53.45 Wash, 20 1ks. wide, course NW. Over loose rocks. 61.35 Wash, 20 lks. wide, course Nw. Over loose rocks. 67.60 Old road, bears NW. and CE. 80.00 Set a malpais stone, 24x16x8ins., 18ins.in the ground for cor. of secs.1,6;7 and 12. marked with 1 notch on the N. and 5 notches on the S. edge; and raise a mound of stone, 2ft. base, 1 ft. high, . W of cor. Pits impraticable Land, slightly rolling. Soil, rocky; 3rd rate. No timber. Underbrush, grease wood and sage. Rolling land covered with loose rocks and exceptionally dense underbrush, and, on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 80.00 chs. Thence I run North bet.secs.1 and 6. Over slightly rolling land covered with looserocks thru exceptionally dense underbrush. Wash, 20 lks. wide, course SW. Over loose rocks. 5.60 Wash, 100 lks. wide, course SW. Over loose rocks. Wash, 200 lks. wide, course SW. Over loose rocks. 18.00 24.00 40.00 set a malpais stone, 15z8x6ins., 10ins.in the ground, for $\frac{1}{6}$ sec. cor. marked $\frac{1}{4}$ on w. face; dig pits, 18x18x12 ins and S. of stone, 3ft. dist.; and raise a mound of earth 3 ft. base, 1 ft. high, w. of cor. wash, 20 lks.wide, course Sw. Over loose rocks. wash, 20 lks.wide, course Sw. Over loose rocks. 45.90 50.90 80.98 center of Arizona and Utah Ry. track, bears NW. and SE. 81.80 Telephone line, bears NW. and SW. Intersect the 5th Standard ParallellMorth at a point 82.10 5.00 chs. w. of the standard hosec.cor.on the S. bdy. of sec.31, Tp.21 W.Rg.17 W. which is a stone marked and witnessed as described by the Surveyor General. I set a malpais stone, 24x14x14ins...18ins.in the ground, for closing cor. of Tp.20 N., Rs. 17 and 18 W., marked CC 20 N on S., 17 W on E., and 18 W. on W.face; and raise a mound of stone, 2ft. base, 1 ft. high, S. of cor. Pits impraticable. Land, slightly rolling. Soil, rocky; 3rd rate. No timber.

Underbrush, grease wood, sage and cacti.

Rolling land covered with loose rocks and exceptionally dense underbrush, and on account of the scarcity of water and other reasons more fully explained at the end of these notes, exceptionally difficult to survey, 82.10chs December 23,1909.

Error in lat...

		Lati	tudes, departu	res, and cl	losing e	rrors.	(.	
Ī	ine des	ignated	True bearing	Distance	Latitu	des	Depar	_=
		*	*	Chs.	Chs.	S Chs.	E Chs	Chs.
S.Pdy	т 20 и.	,R 18 W	S 89°52'E				479.17.	1 '
E.Bdy	T.20 N.	,R.18 W	North	482.10	482.10	• • • • •		
5th St	anderd	Par.N	West	478.35				.478.35
5th G	weridia	n w	.South		1 .	•	1	1
			S 0°03 W					
			South	160.00	• • • • • •	160.00	•••••	• • • • •
Conve	gency.	• • • • • • • • • •	••••••					0.51
	Totals				432.10	481.86	479.17	478.96

GENERAL DESCRIPTION

481.86

0.24

478.96

-0.21

T 20 N., R. 17 W. is rolling land in the W. and mountainous in the East. It Is covered with dense underbrush throughwithere is no water in this Tp.

Tp.20 R.18 W., is rolling and mountainous. and covered with dense underbrush. There is no water in this Tp.

In order to obtain water while making this survey, it was nocessary to go a distance of 14 miles. The length of this haul, 28 miles to a trip, kept an extra team, wagon and man busy all the time. As it was necessary to make a road from each camp to the road on which the tank we obtained water from was located, and the fact that we had to keep 3 barrels of water on hand for camp use and camp and line teams, it was impossible to move camp to suit the work and I had to work these lines from one camp, making long walks to and from work, and materially cutting down the number of miles run in a day.

cutting down the number of miles run in a day.

Although most of these lines passed over young brush covered with loose rocks, the rocks were not large enough to use for cor. stones, and knowing that the most essential part of a survey, is the establishment of cors. which will not be easily destroyed, I employed extra man, team and wagon to haul rocks for cors. in preference to setting mounds of earth, with deposits and stake in pit, which would have been easier and cost less, but would have soon been obliterated. The average haul for rocks was 3 miles, and kept the idem busy at all times.

The heavy snow fall here in early winter had rotted out the grass, and I was forced to buy and hard hay from kingman for the extra teams made necessary by the scarcity of water and the hauling of rocks, for the establishment of substantial cors.

lishment of substantial cors.

The fact that lines are partly maximum and the other part nearly maximum, far worse than ordinary intermediate and the extra expenses and troubles incurred in properly excuting the survey of these Tp. exteriors have made these lines very exceptionally difficult to survey, and I ask to be allowed these rates.

tud W. Nodos.
U.S. Deputy curveyor

BOOK 2192

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

A list of the names of the individuals employed by	1 /
marking the lines and corners described in the foregoing field notes of the su	1 /
marking the lines and corners described in the foregoing field notes of the su	st in running, measuring a
71. Bdys. of Tp. 1971., Rg. 18 West & & Bdy	
1 + 1/2 / 19 / 19 West of 1 stepted a	irvey of Musical Constitution
showing the respective capacities in which they acted:	TK 2011. 18g /80
a. P. Kerns	
Bert Lyon	, Chainman
O 1110 m	, Chainman
Malph M. Ellis	\cdots , $Moundman$
(X / XF-, L	
O.M. Parker	
George Hewell	
	, Flagman.
FINAL OATH OF ASSISTANTS.	
We hereby certify that we assisted ————————————————————————————————————	Rodolf
United States Deput	y Surveyor in surveying a
hose parts or portions of the S. E. and M. Bdys.	of burveyor, in surveying all
19 Horth Range 18 West and I	
of Cownship to North Range	swest.
	11 / 1 21
	11 / 1 21
Salt Birth Basedmeridian, Teniloy of Brigon the foregoing field notes as having been surveyed by him and under his dire	of the Lula 2
Self River Bases meridian, Tension of Rights at the foregoing field notes as having been surveyed by him and under his direct as been in all respects, to the best of our knowledge and belief, well and f	of the Lula 2
the foregoing field notes as having been surveyed by him and under his direction in all respects, to the best of our knowledge and belief, well and former monuments established, according to the instructions furnished by the second s	of the Lula 2
the foregoing field notes as having been surveyed by him and under his directions been in all respects, to the best of our knowledge and belief, well and former monuments established, according to the instructions furnished by the eneral for	of the Lula 2 which are represented ection; and that said survey aithfully surveyed, and the United States Surveyor
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12/8

BOOK 2192

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

1, Fed W. Rodolf	United States Deputy Surveyor, do
1 1 that in nursuance of a contract re	eceived from Transe S. Frauls
	bearing date of the
10th day of march	190 9, I have well, faithfully, and truly, in my own
proper person, and in strict conformity with the	instructions furnished by the United States Surveyor
General for Congona, the	Manual of Surveying Instructions, and the laws of the
True 1 Guilly managed all those parts or portion	as of ILoun, Source and
a I (12 mindres of Jan	nshus 17, Month, Ugange 10 Ums,
and the East Boun by	of Township 20 North #
Bange 18 West.	
	of the Gila & Salt
Rive Bras & Umeridian in the Territ	ory of Chus on a, which are represented in the
formaring field notes as having been surveyed by	me, and under my direction; and I do lurther soleming.
amon that all the corners of said survey have be	een established and perpetuated in strict accordance with
the Manual of Surveying Instructions, and the sp	pecial written instructions of the United States Surveyor
General for Communication and in	the specific manner described in the field notes, and that
the foregoing are the original field notes of such	survey.
ino rotogoing are the	
	Fred W. Rodolf
	United States Deputy Surveyor.
	Onned Signes Depung Surveyor.
The different way	Lolland sworn to before me)
Subscribed by said	, , , , , , , , , , , , , , , , , , ,
this this day of may	
/	trank ordigalle
OOOOOO O SEAL O	2100 3/1/ Cin
<u> </u>	1100 Junior of from for
AP	PROVAL.
	CTATES SHRVEYOR CENERAL
OFFICE OF THE UNITED	STATES SURVEYOR GENERAL,
	Thering Cling Clay 18, 190 190
	IN H A Hall Ex
The foregoing field notes of the survey of	P 18 hl + and the
Daundanies of 7, 1971	Eg. 18 West and the East
Bundary of If yo h Cg	18W. Jela 4 (Ozer
Chiri Bese ked Meride	in arman
executed by Jack W. Co	Lely M. Deputy Cherry
landing contract No. / Jateddated	March 10 , 1909, having been
critically examined and the necessary correct	tions and explanations made, the said field notes, and the
surveys they describe, are hereby approved.	
surveys oney deserved, and and and	Mant tingalle
	United States Surveyor General.
	s the field notes of the above described surveys in
I certify that the foregoing transcript of	the field notes of the above-described surveys inrectly copied from the original notes on file in this office.
, has been cor	Techny cohier from one offermat motor of 1772 177

United States Surveyor General.