

Accepted G.L.C. letter "E" - April 28-1913

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Subdivisional
Book B.

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BOOK 2372

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FIELD NOTES

OF THE SURVEY OF THE

A PARTIAL

SUBDIVISION OF T 17 N R 18 W

Of the Gila and Salt River Base and Meridian,
Arizona.

AS SURVEYED BY

William B. Alexander, United States Deputy Surveyor,

Under his Contract No. 156, dated May 26, 1909., 190

Survey commenced May 12, 1910., 190

Survey completed May 19, 1910., 190

NAMES AND DUTIES OF ASSISTANTS.

F. C. Kelton chairman

W. H. Campbell chairman

N. S. Darlington Moundman.

A. M. Pogue Moundman

Wayne Hubbs Axman

C. H. French Axman

W. G. Carleton Flagman.

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BOOK 2372

PRELIMINARY OATHS OF ASSISTANTS.

WE, J.C. Kelton,and W.A. Campbell

do solemnly swear that we will well and faithfully execute the duties of chainmen; that we will level the chain upon even and uneven ground, and plumb the tally pins, either by sticking or dropping the same; that we will report the true distances to all notable objects, and the true lengths of all lines that we assist in measuring, to the best of our skill and ability, and in accordance with instructions given us, in the survey of
Subdivisions in T17th & 18 N R18 W; and T18, 19th & 20 N R19 W

J.C. Kelton, Chainman.W.A. Campbell, Chainman.Subscribed and sworn to before me this 9thday of May, 19⁰ }

+ see note below

William D. Alexander
U.S. Deputy SurveyorWE, N.S. Darlingtonand A.M. Pogue

do solemnly swear that we will well and truly perform the duties of moundmen in the establishment of corners, according to the instructions given us, to the best of our skill and ability, in the survey of
Subdivisions in T17th & 18 N R18 W and T18, 19th & 20 N R19 W

N.S. Darlington, Moundman.A.M. Pogue, Moundman.Subscribed and sworn to before me this 9thday of May, 19⁰ }

+ see note below

William D. Alexander
U.S. Deputy SurveyorWE, Wayne Hobbsand C.H. French

do solemnly swear that we will well and truly perform the duties of axmen in the establishment of corners and other duties, according to instructions given us, to the best of our skill and ability, in the survey of
Subdivisions in T17th & 18 N R18 W and T18, 19th & 20 N R19 W

Wayne Hobbs, Axman.C.H. French, Axman.Subscribed and sworn to before me this 9thday of May, 19⁰ }

+ see note below

William D. Alexander
U.S. Deputy SurveyorI, W.G. Carleton

, do solemnly swear that I will well and truly

perform the duties of flagman according to instructions given me, to the best of my skill and ability, in the survey of
Subdivisions in T17th & 18 N R18 W and T18, 19th & 20 N R19 W

W.G. Carleton, Flagman.Subscribed and sworn to before me this 9thday of May, 19⁰ }William D. Alexander
U.S. Deputy Surveyor

+ Note ⁶⁻¹⁵¹ This being no official avialable
without great expense and loss of time
I administer the oaths of assistants.

Subdivision of Township 17 North, Range 18 West.

Chains.

Survey commenced May 12, 1910, and was executed with a Young and Sons' Light mountain transit No. 7520, with a Smith Solar Attachment; the horizontal limb having two double verniers placed opposite to each other, and reading to single minutes of arc, which is also the least reading of the declination and latitude arcs. The instrument was examined, tested on the true meridian at Phoenix, Arizona, found correct, and approved by the Surveyor General for Arizona, June 25, 1904. I examine the bubble and collimation and standard adjustments of the transit, and find them to be correct; then to test the solar apparatus by comparing the result of a.m. and p.m. observations with a true meridian determined by observation on Polaris, I proceed as follows: At the Standard corner of secs. 35 and 36. 4th. Standard Parallel North, on the south boundary of T. 17 N., R. 18 W., recently established and described by me; latitude, $34^{\circ} 48' 44''$ N.; long. $114^{\circ} 7' 09''$ W., I set off $18^{\circ} 7' N.$ on the decl. arc; $34^{\circ} 49' N.$ on the lat. arc, and at 4h. 0m. p.m., l.m.t., and determine a meridian with the solar, and mark a point thereof on a stake set firmly in the ground about 3.00 chs. N. of my station.

May 12, 1910.

May 13, 1910.

At 4h. 554m.a.m., l.m.t., I observe Polaris at eastern elongation, in accordance with the instructions in the Manual, and mark a point in the line thus determined by a tack driven in a stake set about 2.00 chs. north of my station.

At 6h. 0m.a.m., l.m.t., I lay off the azimuth of Polaris $1^{\circ} 26'$ to the west, and mark the true meridian thus determined by driving a tack in the stake already set on which the true meridian falls .07 ins. E. of the mark determined by the solar.

At 7h. 0m.a.m., l.m.t., I set off $18^{\circ} 17' N.$ on the decl. arc, $34^{\circ} 49' N.$ on the lat. arc, and mark a point in the meridian determined by the solar on the stake already set 3.00 chs. N. of my station.

The difference between the meridians as established by solar and polaris observations is so slight, that I conclude the adjustments of the solar are satisfactory.

Magnetic variation $15^{\circ} 00' E.$

Thence I run,

N. $0^{\circ} 01' W.$, bet. secs. 35 and 36, over rolling land, covered with dense undergrowth of mesquite, catclaw, palo verde and cactus brush.

Ascend over mountainous land.

Top, thence over sharply rolling, mountainous land.

Gulch, 50 lks. wide, brs. SW.; ascend.

Set a granite stone 8x10x15 ins., 10 ins. in the ground for $\frac{1}{2}$ sec. cor., marked $\frac{1}{2}$ on the W. face; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.

A palo verde tree 9 ins. in diam., brs. S. $71^{\circ} E.$, 2.40 chs. dist., marked $\frac{1}{2}$ S 36 E T.

No other bearing trees available. Pits impracticable.

Descend.

Wash, course SWW., 2.00 chs. wide. Ascend.

Spur, brs. SWW. Descend.

Wash, 1.00 wide, course SWW.; ascend.

Set a granite stone 8x10x20 ins., 15 ins. in the ground, for the corner of secs. 25, 26, 35 and 36, marked with 1 notch on the E. and 1 notch on the S. edges, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of corner. Pits impracticable.

Rolling land, 20.00 chs.

Mountainous land, 60.00 chs.

2. Subdivision of Township 17 North, Range 18 West.

Chains.

Soil, 4th rate, rocky.
No timber.
Mountainous land, or land covered with dense mesquite, cataclaw, palo verde, greasewood and cactus, and extremely difficult to survey, 80.00 chains.

Thence I run,
East, on a random line, bet. secs. 25 and 36.
40.00 Set temp. $\frac{1}{2}$ sec.cor.
80.00 Intersect E. boundary of township at the corner of secs. 25, 30, 31 and 36, recently established and described by me.

Thence I run,
West on a true line, between secs. 25 and 36.
Over sharply rolling land, covered with dense undergrowth of mesquite, palo verde, cataclaw, greasewood and cactus.

Demand--
40.00 Set a granite stone 6x8x12 ins., 8 ins. in the ground for $\frac{1}{2}$ sec.cor. between secs. 25 and 36, marked $\frac{1}{2}$ on the N. face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N.of cor.

A palo verde tree 6 ins. in diam., brs.S.0°20'
E., 2.22 chs., marked $\frac{1}{2}$ S 36 B T.
No other trees available.

64.20 Wash, 1.00 ch. wide, course SW.
80.00 The cor.of secs. 25, 26, 35, and 36, hereinbefore described.
Land, rolling and mountainous.
Dense undergrowth of palo verde, mesquite and cataclaw, greasewood and cactus.
Soil, 3rd rate.
No timber.
Mountainous land, and land covered with dense undergrowth, 80.00 chs., exceptionally difficult to survey.

Thence I run,
N. C. W., between secs. 25 and 26, over mountainous land, covered with dense undergrowth of mesquite, cataclaw, palo verde, greasewood and cactus.

9.00 Wash, 40 lks. wide, course SW.; ascend.
30.00 Descend.
36.60 Wash 20 lks. wide, course SW.; ascend.
40.00 Set a granite stone 6x9x15 ins., 10 ins. in the ground for the $\frac{1}{2}$ sec.cor., between secs. 25 and 26, marked $\frac{1}{2}$ on the W. face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pit impracticable.

Descend.
50.60 Wash, 20 lks. wide, course SW.; ascend.
56.50 Spur brs. W.; descend.
68.65 Wash, 2.00 wide, course SW.; ascend.
71.80 Ridge, brs. E. and W.; descend.
80.00 Set a granite stone 10x12x14 ins., 10 ins. in the ground for the cor.to secs. 23, 24, 25 and 26, marked with 2 notches on the S. and 1 notch on the E.edges; dig pits in each sec. 18x18x12 ins., 5 $\frac{1}{2}$ ft. distant; and raise a mound of earth 4 ft. base, 2 ft. high, W.of corner.

A palo verde tree 14 ins. in diam., brs.N.46°
W., 2.15 chs. dist., marked T 17 N R 18 W
S 23 B T.

A palo verde tree 12 ins. in diam., brs.S.89°
50'W., 4.12 chs., marked T 17 N R 18 W
S 26 B T.

No other bearing trees within distance.

Land, mountainous.

Soil, 4th rate.

No timber.

Dense undergrowth of mesquite, palo verde and greasewood.
Mountainous land, and land covered with dense undergrowth

Subdivision of Township 17 North, Range 18 West
Chains.

and exceptionally difficult to survey, 80.00 chs.

At noon, I set off $18^{\circ}19'N$.on the decl.arc, and observe the sun on the meridian at the cor.of secs.23, 24, 25 and 26; the resulting latitude reading is $34^{\circ}5D4'N$. Thence I run, East, bet. secs.24 and 25, on a random line. 40.00 Set temporary $\frac{1}{4}$ sec.cor. 80.00 Intersect East bdy.of township at cor.of secs.19, 24, 25 and 30, recently established and described by me. Thence I run, West on a true line between secs. 24 and 25, through dense undergrowth of greasewood, mesquite and cactus. 23.00 Descend over mountainous land. 28.00 Wash, 30 lks.wide, course SW.; ascend. Ridge, brs. SW. and NE.; descend. Point for $\frac{1}{4}$ sec.cor. falls in wash; I therefore 38.20 Set a witness corner to $\frac{1}{4}$ sec.cor., a gneiss stone, 8x8x20 ins., 15 ins. in the ground, marked W C $\frac{1}{4}$ on the N. face; from which, A palo verde tree, 9 ins. in diam., brs. S.87°30' W., 3.76 chs., marked W C $\frac{1}{4}$ S 25 B T. There being no other bearing trees within distance, I raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N. of witness corner. Pits impracticable. 40.00 Point for $\frac{1}{4}$ sec.corner falls in wash, 1.00 chain wide, course SW.; ascend. 45.00 Descend. 51.00 Wash, 60 lks.wide, course SW.; ascend. 73.50 Road brs. SW.; descend. 80.00 The cor.of secs. 23,24,25 and 26, hereinbefore described. Land, mountainous. Dense undergrowth of mesquite, catclaw, greasewood and cactus brush. Soil, 3rd rate. No timber. Mountainous land, and land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chs.

Thence I run, N. O° Cl' W., between secs.23 and 24. Over mountainous land, covered with dense undergrowth of greasewood, catclaw, palo verde and caetus. Over descending ground. 5.00 Wash, 1.00 ch.wide, course SW.; ascend. 40.00 Set a granite stone 8x12x24 ins., 18 ins. in the ground for $\frac{1}{4}$ sec.cor., between secs. 23 and 24, marked $\frac{1}{4}$ on the W.face, and raise a mound of stones 3 ft.base, 1 $\frac{1}{2}$ ft.high, W.of cor. Pits impracticable. Descend. 48.00 Wash, 20 lks.wide, course W. 50.00 Wash 35 lks.wide, course W.; ascend. 55.00 Ridge brs. E.and W.; descend. 64.50 Wash, 25 lks.wide, course W. 71.40 Wash, 40 lks.wide, course W. 80.00 Wash, 60 lks.wide, course SW. Point for sec.cor.falling in this wash; I continue line to 80.50 Set a granite stone 8x12x20 ins., 15ins. in the ground, for witness corner to secs. 13,14,23 and 24, marked W C on the NE. face, 3 notches on the S. and 1 notch on the E.edges; dig pits 18x18x12 ins. by ft. dist., in each sec., and raise a mound of earth 4 ft.base, 2 ft.high,W.of corner. Land, mountainous. Soil, 3rd rate, gravel. No timber. Dense undergrowth of greasewood, catclaw, palo verde and cactus. Mountainous land, and land covered with dense undergrowth

4. Subdivision of Township 17 North, Range 18 West.

Chains.	and exceptionally difficult to survey, 80.00 chains. May 13, 1910.
40.00	May 14, 1910. From the true point for the cor. of secs. 13, 14, 23 and 24, I run East on a random line, between secs. 13 and 24. Set temp. \pm sec.cor.
80.10	Intersect the East boundary of Township at the corner of secs. 13, 13, 19 and 24, recently established and de- scribed by me. Thence I run, West, on a true line, between secs. 13 and 24, over moun- tainous land covered with dense undergrowth of greas- ewood, catclaw, palo verde and cactus. Descend.
30.00	Wash, 45 lks.wide, course SW.
33.40	Wash, 40 lks.wide, course SW.; ascend.
40.05	Set a granite stone 6x12x15 ins., 10 ins. in the ground for the \pm sec.cor., between secs. 13 and 24, marked \pm on the N.face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N.of cor. Pits impracticable.
54.00	Ridge, brs. NE. and SW.; descend.
65.20	Wash, 40 lks.wide, course SW.; ascend.
80.10	The true point for cor. of secs. 13, 14, 23 and 24. Land, mountainous. Dense growth of greasewood, catclaw, palo verde, and cactus. Soil, 3rd rate, gravelly. No timber. Mountainous land, and land covered with dense undergrowth, and exceptionally difficult to survey, 80.10 chs.
0.50	At 9:30 a. m., 1.m.t., I set off $34^{\circ} 51\frac{1}{2}'$ E. on the lat. arc; and $18^{\circ} 32\frac{1}{2}'$ N. on the decl.arc; and determine a true meridian with the solar at the true point for the cor. of secs. 13, 14, 23 and 24.
4.00	Thence I run, N. $0^{\circ} 01'$ W., bet. secs. 13 and 14. Descend over mountainous ground, covered with dense under- growth of greasewood, catclaw, palo verde and cactus.
13.95	Witness cor. to cor. of secs. 13, 14, 23 and 24. Wash, 20 lks.wide, course SW.; ascend.
18.00	Knoll, descend.
28.80	Wash, 5 lks.wide, course SW.; ascend.
33.50	Wagon road, brs. SW. and NE.; descend.
37.60	Wash, 35 lks.wide, course SW. Ascend.
40.00	Ridge, brs. E. and W.; descend. Set a granite stone 10x12x12 ins., 9 ins. in the ground for \pm sec.cor., marked \pm on the W.face, and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
43.82	Telegraph line brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W.
48.22	Santa Fe R.R., brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W. Descend.
51.60	Wash, 60 lks.wide, course W.; ascend.
52.62	Telegraph line brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W.
80.00	Set a granite stone, 8x10x14 ins., 10 ins. in the ground marked with 1 notch on the E. and 4 notches on the S. edges for the sec. cor. of secs. 11, 12, 13 and 14; and raise a mound of stone 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Land, mountainous. Soil, rocky, 3rd and 4th rate. Dense undergrowth of greasewood, catclaw and cactus. No timber. Mountainous land, and land covered with dense undergrowth, 80.00 chs. exceptionally difficult to survey.

Subdivision of Township 17 North, Range 18 West.

5.

Chains.	
	At noon, at the above cor., I set off $18^{\circ} 33\frac{1}{2}'$ N. on the decl. arc, and observe the sun on the meridian; the resulting lat. reading is $34^{\circ} 52'$ N. Thence I run, East, on a random line, between secs. 12 and 13. Set temp. + sec.cor.
40.00	Intersect E. boundary of township at the cor. of secs. 7, 12, 13, and 14, recently established and described by me.
80.08	Thence I run, West on a true line, bet. secs. 12 and 13. Over rolling land, covered with dense undergrowth of catclaw, greasewood and cactus. Descending. Road, brs. NW. and SE.
1.40	Telephone line brs. NW. and SE.
5.30	Wash, 1.25 chs., course SW.; ascend.
12.50	Descend.
25.00	Wash, 60 lks.wide, course SW.; ascend.
36.80	Set a granite stone 8x10x12 ins., 8 ins. in the ground for the + sec.cor, between secs. 12 and 13, marked + on the N.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N.of corner. Pits impracticable.
40.04	Wagon road, brs. N. and S.
67.45	Telegraph line, brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W.
74.35	Santa Fe R.R., brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W.
75.06	Telegraph line brs. N. $9^{\circ} 8'$ E. and S. $9^{\circ} 8'$ W.
75.77	The cor.of secs. 11, 12, 13 and 14, hereinbefore described.
80.08	Land, rolling and mountainous. Dense undergrowth of greasewood, catclaw and cactus. No timber. Soil, 3rd and 4th rate. Mountainous land, or land covered with dense undergrowth and exceptionally difficult to survey, 80.00 chs.
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	N, $0^{\circ} 01'$ W., between secs. 11 and 12. Descend over stony ground, mountainous and covered with dense undergrowth of greasewood and catclaw.
10.00	Wash, 60 lks.wide, course W.; ascend.
13.50	Ridge, bra. E. and W.; descend.
27.80	Wash, 60 lks.wide, course W.; ascend.
30.50	Ridge, brs.E. and W.; descend.
33.00	Wash, 40 lks.wide, course W.; ascend.
39.00	Ridge brs.E. and W.; descend.
40.00	Set a granite stone 5x10x13 ins., 9 ins. in the ground, for the + sec.cor., between secs. 11 and 12, marked + on the W.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Highest dipstick over well at Yucca Station on the Santa Fe R.R. brs.N. $64^{\circ} 20'E$.
	Descend.
50.00	Wash, 3.00 chs.wide, course W.; ascend.
60.00	Descend.
65.85	Wash, 1.50 chs., course W.; ascend.
80.00	Point for sec.cor. falls in wash 40 lks.wide, course W.; I therefore at
80.70	Set a granite stone 10x14x16 ins., 11 ins. in the ground for the witness corner to secs. 1, 2, 11 and 12; marked W.C on the NE.face; 5 notches on the S. and 1 notch on the E. edges; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Land, mountainous and covered with dense undergrowth of greasewood, catclaw and some cactus. Soil, 3rd and 4th rate. No timber. Mountainous land, and land covered with dense brush, 80.00 chs., and exceptionally difficult to survey.
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	From true point for cor.of secs. 1, 2, 11 and 12, I run,

6. Subdivision of Township 17 North, Range 18 West.

Chains.	
40.00	East, on a random line, between secs. 1 and 12. Set a temp. t sec.cor.
80.10	Intersect the east boundary of the township 5 lks.S.of cor.of secs. 1, 6, 7 and 12, recently estab.& described by me. Thence I run, S.89°58' W., on a true line, between secs. 1 and 12, over rolling and mountainous land, covered with dense under- growth of greasewood, catclaw, cactus and palo verde; descending ground.
15.45	Wash, 1.00 ch. wide, course SW.; ascend.
40.05	Set a granite stone 7x10x12 ins., 8 ins. in the ground for the t sec.cor. between secs 1 and 12, marked t on the N.face; and raise a mound of stones 3 ft. base, 1t ft. high, N.of cor. Pits impracticable. Descend.
55.30	Road bears SW. and NE.
58.00	Wash, 60 lks.wide, course SW.; ascend.
61.49	Telegraph line brs. N.9° 8'E. and S.9°8'W.
62.20	Santa Fe R.R. brs N. 9°8'E. and S.9°8'W.
62.91	Telegraph line brs.N.9°8'E. and S.9°8'W.; descend.
80.10	The true point for cor.of secs. 1, 2, 11 and 12. Land, mountainous. Dense undergrowth of greasewood and catclaw and cactus. Soil, 3rd and 4th rate. No timber. Mountainous land, and land covered with dense undergrowth and exceptionally difficult to survey, 80.00 chs.

May 14, 1910.

	May 15, 1910.
40.00	From true point for cor.of secs. 1, 2, 11 and 12, I run, N.0°01'W., on a random line, between secs. 1 and 2. Set temp. t sec.cor.
80.00	Intersect the North bdy. of Tp. at corner of secs. 1, 2, 35 and 36, recently established and described by me. Thence I run, South 0°01' E.on a true line, between secs. 1 and 2. Over mountainous land, covered with dense undergrowth of greasewood, cactus, catclaw and palo verde. Ascend.
9.00	Ridge, bears E.and W.; descend.
11.80	Wash, 50 lks.wide, course West; ascend.
40.00	Set a red granite stone 6x9x14 ins., 10 ins. in the ground for the t sec.cor., marked t on the W.face; and raise a mound of stones 3 ft. base, 1t ft. high, W.of cor- ner. Pits impracticable.
44.00	Descend.
75.00	Wash, 30 lks.wide, course W.; ascend.
79.30	Desend.
80.00	Witness corner to corner of secs. 1, 2, 11 and 12, hereto- fore described. True point for corner of secs. 1, 2, 11 and 12. Land, rolling and mountainous. Soil, 3rd and 4th rate. Dense undergrowth of greasewood, catclaw, cactus and palo verde. No timber. Mountainous land, or land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chs.

At 9:30 a.m., 1.m.t., I set off 34° 49' N. on the lat.
arc; 18°47'N. on the decl.arc, and determine a true
meridian with the solar at the Standard cor.of secs.
34 and 35 on the 4th. Standard Parallel North on the
South bdy.of Tp.17 N., R.18 W. recently established
and described by me.

Thence I run,
N.0° 01'W., between secs.34 and 35.
Over extremely mountainous land, almost unsurveyable in

Subdivision of Township 17 North, Range 18 West. 7.

Chains.	places, covered with scattering undergrowth of catclaw and cactus. Ascend rocky slope, rapidly increasing to nearly 40° angle covered with rough-faced boulders, progress very difficult.
40.00	Set a porphyry stone 8x12x16 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec.cor., between secs.34 and 35, marked $\frac{1}{4}$ on the W.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high,W.of cor. Pits impracticable.
45.00	Ascend abruptly.
49.10	Top of mountain, brs.E. and W.; descend.
59.80	Descend abruptly.
70.00	Canyon, deep, wash 15 lks.wide, course W. Ascend steep slope, rock strewn and difficult to measure.
75.50	Ascend cliff, about 50 feet high.
80.00	Top of ridge, bears E. and W.; descend.
	Set a tufa stone, 8x10x16 ins., 12 ins. in the ground, for the cor.of secs.26,27,34 and 35, marked with 1 notch on the S. and 2 notches on the E.edges; and raise a mound of stones 3 ft.base, 1 $\frac{1}{2}$ ft. high,W.of cor. Pits impracticable.
	Land, exceedingly mountainous and nearly unsurveyable.
	Soil, 4th rate, rock.
	Scattering undergrowth of catclaw and cactus.
	No timber.
	Mountainous land, and land covered with loose boulders and exceptionally difficult to survey, 80.00 chs.
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40.00	East, on a random line, between secs.26 and 35.
80.02	Set temp. $\frac{1}{4}$ sec.cor.
	Intersect N.and S. line 3 lks.N.of cor. of secs.25,26, 35 and 36, hereinbefore described. Thence I run, N. 89°59' W., on a true line, bet. secs.26 and 35.
	Over mountainous land, covered with dense undergrowth of greasewood, cactus, catclaw and palo verde.
	Descend.
10.75	Wash, 30 lks.wide, course SW.; ascend.
18.45	Wagon road, brs.S. and N.
19.46	Telegraph line, brs.N.9°30'W. and S.9°30'E.
20.17	Santa Fe R.R. brs.N.9° 30' W. and S.9°30'E.
20.88	Telegraph line hrs. N.9°30'W. and S.9° 30'E.
27.88	Gulch, course WSW. Ascend.
30.00	Descend.
40.01	Set a malpais stone 6x10x18 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on the N.face; from which A palo verde tree 10 ins. in diam., brs. N.56°W., 3.50 chs., marked $\frac{1}{4}$ S.35 E.T.
	A palo verde tree, 12 ins. in diam., brs. N.59°W., 4.00 chs. dist., marked $\frac{1}{4}$ S.26 E.T.
48.00	Enter Sacramento Wash, course SSE. Ascend steep rocky
51.00	Leave Sacramento Wash, course SSE. Ascend steep rocky slope.
58.30	Ridge, brs.N. and S.; descend abruptly.
61.00	Ascend.
67.10	Spur from main mountain top about 5.00 chs. S. Descend.
71.00	Ascend.
75.35	Spur brs. N. from main range about 8.00 chs. S. Descend.
80.02	The cor.of secs.26,27,34 and 35, hereinbefore described.
	Land, exceedingly mountainous, and covered with loose rock.
	Soil, 4th rate; gravel and sand 50.00 chs.; volcanic stone 30.00 chs.
	Dense undergrowth of catclaw, greasewood, and palo verde.
	Timber scattering palo verde.
	Mountainous land, or land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chains.
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	N.0°00'W., bet. secs.26 and 27.
	Over extremely mountainous land, covered with loose vol-

8. Subdivision of Township 17 North, Range 18 West.

Chains.	
	canic rocks, this being the southeasterly margin of what is known as the Black Mountains.
	Scattering undergrowth of greasewood, catclaw and cactus.
	Descend steep slope.
15.00	Wash in canyon, 1.0 lks.wide, brs.E.; ascend.
25.10	Ridge brs. E. and N.; descend.
30.00	Deep canyon, wash 3.0 lks.wide, course E. Ascend over black rocks.
40.00	Set a malpais stone 6x12x24 ins., 18 ins. in the ground for the $\frac{1}{4}$ sec.cor., between secs. 26 and 27, marked $\frac{1}{4}$ on the W. face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Continue ascent over black malpais boulders.
45.00	Top of spur, brs.E. from main mountain range; descend.
58.00	Rocky gulch, no wash, course SE. Ascend over boulders.
80.00	Set a malpais stone 4x10x18 ins., 10 ins. in the ground for the cor. to secs. 22, 23, 26 and 27, marked with 2 notches on the S. and 2 notches on the E.edges; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Land, extremely mountainous.
	Soil, 4th rate, malpais rock.
	Scattering greasewood and catclaw brush.
	No timber.
	Mountainous land, and land covered with loose boulders, and exceptionally difficult to survey, 80.00 chains.

May 15, 1910.

	May 16, 1910.
	Thence I run, S.89° 59' E., on a random line, between secs. 23 and 26.
40.00	Set temp. $\frac{1}{4}$ sec.cor.
80.00	Intersect N. and S. line, 3 lks.S.of cor. of secs. 23, 24, 25 and 26 hereinbefore described.
	Thence I run, West, on a true line, bet. secs. 23 and 26.
	Over mountainous land, covered with dense undergrowth of greasewood, cactus and catclaw.
	Descend.
10.00	Road, brs.S.
10.00	Wash, course SSW., 1.00 chain wide.
	Ascend.
11.46	Telegraph line, brs. N.5° 15' W., and S.15° 15'E.
12.17	Santa Fe R.R. brs. N.5° 15' W., and S.5° 15' E.
12.88	Telegraph line brs. N.5°15' W., and S.5°15' E.
32.00	Enter Sacramento Wash, course S.
36.00	Leave Sacramento Wash, course S.; ascend.
38.30	Spur brs.S.
50.00	Set a malpais stone 6x10x20 ins., set 18 ins. in the ground for the $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on the N.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N.of cor. Pits impracticable.
41.00	Rocky gulch, 20 lks.wide, at bottom, course SE. Ascend steep easterly slope of Black Mountains; over boulders.
65.94	High spur sloping north. Descend abruptly.
72.10	Rocky gulch, course NE.; ascend.
80.00	The cor.of secs. 22, 23, 26 and 27, hereinbefore described. Land, extremely mountainous and the last 40.00 chains covered with large malpais boulders, the first 40.00 chains being covered with dense undergrowth of greasewood, catclaw and cactus, which gives away to a scattering undergrowth of greasewood in the last half mile.
	Soil, 4th rate.
	No timber.
	Mountainous land covered with dense undergrowth 32.00 chs.
	Level Sacramento Wash, 4.00 chs.
	Mountainous land, covered with loose boulders, 44.00 chs.
	Mountainous land, or land covered with dense undergrowth and exceptionally difficult to survey, 80.00 chs.

Subdivision of Township 17 North, Range 18 West.

Chains.

	At 9h. 30m. a.m., 1.m.t., I lay off $34^{\circ}50\frac{1}{2}'N.$ on the lat. arc; $19^{\circ}51'N.$ on the decl. arc, and determine a meridian with the solar at the cor. of secs. 22, 23, 26 and 27, hereinbefore described.
	Thence I run, N. $0^{\circ}01'W.$, between secs. 22 and 23.
	Over rough, mountainous land, covered with large black malpais boulders; scattering undergrowth of greasewood. Along the steep easterly slope of the Black Mountains.
	Descend.
5.95	Rocky gulch, course E.; ascend.
11.25	Ridge, brs. E.; descend.
18.00	Rocky gulch, course E.; ascend.
21.80	Ridge brs. E.; descend.
22.40	Rocky gulch, course E.; ascend.
35.00	Spur, brs. E.; descend.
40.00	Set a malpais stone, $10 \times 10 \times 6$ ins., 10 ins. in the ground, for \pm sec. cor., marked \pm on the W. face, and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
50.90	Rocky gulch, course NE.; ascend.
54.00	Spur, brs. E.; descend.
58.00	Gulch, course SE.; ascend.
63.00	Spur brs. E.; descend.
80.00	Set a malpais stone, $8 \times 12 \times 20$ ins., 15 ins. in the ground, for the cor. to secs. 14, 15, 22 and 23, marked with 2 notches on the E. and 3 notches on the S. edges; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.
	Land, extremely mountainous, covered with malpais boulders.
	Soil, 4th rate.
	Scattering undergrowth of greasewood and catclaw.
	No timber.
	Mountainous land, and land covered with loose malpais boulders extremely difficult to survey, 30.00 chains.

	East, on a random line, between sections 14 and 23.
40.00	Set a temp. \pm sec. cor.
80.00	Intersect N. and S. line at the true point for the cor. of secs. 13, 14, 23 and 24, which is a wash $50\frac{1}{2}$ k.s. $S.0^{\circ}1'E.$ of witness corner hereinbefore described.
	Thence west, on a true line, bet. secs. 14 and 23, over mountainous land, covered with dense undergrowth of greasewood, catclaw and cactus.
6.05	Wagon road bears SW. and NE.; ascend.
7.04	Telegraph line brs. $N.9^{\circ}8'E.$ and $S.9^{\circ}8'W.$
7.75	Santa Fe R.R. brs. $N.9^{\circ}8'E.$ and $S.9^{\circ}8'W.$
8.46	Telegraph line, brs., $N.9^{\circ}8'E.$ and $S.9^{\circ}8'W.$
	Descend.
38.00	Enter Sacramento Wash, course S.
40.00	Point for \pm sec. cor. falls in Sacramento Wash; therefore, I continue line.
42.00	Leave Sacramento Wash, course S.; ascend.
43.00	Set a malpais stone $15 \times 15 \times 20$ ins., 18 ins. in the ground for a witness cor. to \pm sec. cor., between secs. 14 and 23, marked $W.C.\pm$ on the N. face; whence,
	A palo verde tree, 7 ins. in diam., brs. $N.62\frac{1}{2}'E.$, 1.85 chs. scribed $W.C.\pm S.14 B.T.$
	A palo verde tree 8 ins. in diam., brs. $S.56\frac{1}{2}'E.$, 1.99 chs., scribed $W.C.\pm S.23 B.T.$
	Descend.
54.30	Gulch, 20 lks. wide, course S.
55.50	Gulch, 20 lks. wide, course SE. Ascend steep boulder covered slope.
80.00	The cor. of secs. 14, 15, 22 and 23, hereinbefore described.
	Land, mountainous.
	Soil, 3rd and 4th rate.
	Dense undergrowth of greasewood, catclaw, palo verde and cactus.
	Timber, scattering palo verde.

10. Subdivision of Township 17 North, Range 18 West.

Chains.

Mountainous land, or land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chains.

At 12 M. noon, I set off $19^{\circ} 24'$ N. on the decl. arc, and observe the sun on the meridian at the cor. of secs. 14, 15, 22 and 23 hereinbefore described; the resulting latitude reading is $34^{\circ} 51\frac{1}{2}'$ N.

Thence I run, N. $0^{\circ} 41'$ W., bet. secs. 14 and 15, over extremely mountainous land, covered with large malpais boulders along east-erly slope of Black Mountains, through dense under-growth of greasewood and cactus.

50.00 Begin steep descent.
 38.00 Rocky gulch 60 lks.wide, course E.; ascend.
 40.00 Set a malpais stone, 8x10x18 ins., 10 ins. in the ground, for the $\frac{1}{4}$ sec.cor., marked + on the W.face; and raise a mound of stones 3 ft.base, $1\frac{1}{2}$ ft. high, W.of cor.
 Pits impracticable.
 Ascend SE.slope, steep and covered with loose boulders.
 57.50 Ridge brs. NE.; descend.
 62.40 Gulch, 25 lks.wide, course NE.; ascend.
 74.00 Descend.
 77.40 Gulch, rocky, 30 lks.wide, course SE.; ascend.
 80.00 Malpais rock in place 15x20x12 ins. above ground, marked cross (X) at the exact point for cor. of secs. 10, 11, 14 and 15, and with 2 notches on the E., and 4 notches on the S. edges; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.

Land, extremely mountainous.
 Soil, 4th rate.
 Dense undergrowth of greasewood, cactus, some palo verde.
 No timber.
 Mountainous land, and land covered with dense undergrowth or loose boulders, and exceptionally difficult to survey, 80.00 chains.

Kast, on an random line, between secs. 11 and 14.
 Set temp. $\frac{1}{4}$ sec.cor., 8x10x15 ins., 10 ins. in the ground, for the witness cor. to $\frac{1}{4}$ sec.cor., marked W.C + on the N.face; and raise a mound of stones 3 ft.base, $1\frac{1}{2}$ ft. high, N.of cor. Pits impracticable.
 A willow tree 6 ins. in diam., brs.N. $23\frac{1}{2}$ °W., 2.13 chs., marked W.C + 3 ll B T.
 No other tree available.

37.00 Enter Sacramento Wash, course SW.
 53.00 Leave Sacramento Wash, course SW. Ascend Black Mountains.
 57.00 Ridge brs. SE.; descend.
 62.00 Gulch, 35 lks.wide, course SE.; ascend over malpais boul-ders.
 80.00 The cor.of secs. 10, 11, 14 and 15, hereinbefore described.
 Land, level and mountainous.
 Soil, 3rd and 4th rate.
 Dense undergrowth of greasewood, cactus, catclaw and palo verde.
 No timber.
 Levele Sacramento Wash, 16.00 chains.
 Mountainous land, 66.00 chains.
 Mountainous land, or land covered with dense undergrowth and exceptionally difficult to survey, 80.00 chains.

May 16, 1910.

Subdivision of Township 17 North, Range 18 West.

11.

Chains.

- May 17, 1910.
N. 0° 01' W., between secs. 10 and 11, over extremely mountainous land, covered with dense undergrowth of greasewood, catclaw and cactus, and with large loose malpais boulders.
- Ascend.
7.40 Ridge brs. S.; descend.
13.80 Gulch 45 lks. wide, course SE.; ascend. Ground thickly covered with large boulders.
40.00 Set a malpais stone 10x12x15 ins., 10 ins. in the ground for the cor. to secs. 10 and 11, marked $\frac{1}{4}$ on the W. face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
Descend over large boulders, line extremely difficult to measure.
74.00 Descend abruptly.
80.00 Set a porphyry stone 8x10x15 ins., 10 ins. in the ground for the cor. to secs. 2, 3, 10 and 11, marked with two notches on the E. and 5 notches on the S. edges; whence A catclaw tree, 4 ins. in diam., brs. N. 28° 30' E., 3.41 chs., marked T 17 N, R 18 W, S 2 B T.
A palo verde tree, 12 ins. in diam., brs. S. 47° E., 1.31 chs., marked T 17 N, R 18 W, S 11 B T.
A palo verde tree, 10 ins. in diam., brs. N. 8° W., 3.56 chs., marked T 17 N, R 18 W, S 3 B T.
A palo verde tree 8 ins. in diam., brs. S. 67 $\frac{1}{2}$ ° W., 1.80 chs., marked T 17 N, R 18 W, S 10 B T.
Land, extremely mountainous.
Soil, 4th rate.
Scattering timber of catclaw and palo verde.
Mountainous land, and land covered with dense undergrowth, and large loose malpais boulders, and exceptionally difficult to survey, 80.00 chains.
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- At 9h. 30m. a.m., 1 m.t., I set off 19° 18' N. on the decl. arc; 34° 53' N. on the lat. arc, and determine a meridian with the solar at the cor. of secs. 2, 3, 10 and 11 hereinbefore described.
Thence I run, N. 01' W., on a random line, between secs. 2 and 11.
East on a random line, between secs. 2 and 11.
Set temp. $\frac{1}{4}$ sec. cor.
40.00 80.04 Intersect the N. and S. line, 5 lks. N. of the true point for cor. of secs. 1, 2, 11 and 12.
This true point for cor. falls in wash, and is perpetuated by a witness corner located 70 lks. N. 01' W., and hereinbefore described.
From true point of cor. I run, N. 01' W., on a true line, between secs. 2 and 11.
Over mountainous land, covered with dense undergrowth of greasewood, cactus and catclaw.
2.00 Leave wash, 40 lks. wide, course SW.
26.00 Wash, 30 lks. wide, course SW.; ascend.
40.02 Set a grano-porphyry stone 8x10x15 ins., 10 ins. in the ground, for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the N. face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.
Descend.
47.00 Wash, 50 lks. wide, course SW.; ascend.
52.00 Ridge brs. N. and S.; descend.
58.50 Enter Sacramento Wash, course S. Covered with boulders and brush.
77.50 Leave Sacramento Wash, course S.
Ascend.
80.04 The cor. of secs. 2, 3, 10 and 11, hereinbefore described.
Mountainous land, 61.00 chains.
Level Sacramento Wash, 19.00 chains.
Soil, 3rd and 4th rate.
Dense undergrowth of greasewood, cactus, catclaw, and palo verde.
No timber.

12. Subdivision of Township 17 North, Range 18 West.

Chains.	
	Mountainous land, or land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chains.
40.00	N. 0° Cl' W. on a random line, between secs. 2 and 3. Set temp. & sec.cor.
79.97	Intersect the N.bdy. of the Tp., 6 lks.W. of cor.of secs. 2, 3, 34 and 36, recently established and described by me. Thence I run, S. 0° 02' W., on a true line, between secs. 2 and 3, over mountainous and rolling land, covered with dense undergrowth of catclaw, greasewood, mesquite, palo verde, and cactus.
30.00	Descend over mountainous land.
39.97	Gulch, 15 lks.wide, course W.; ascend. Set a granite stone 6x10x18 ins., 10 ins. in the ground, for $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on the W.face; whence, A palo verde tree, 18 ins. in diam., brs.E. 60° W., 1.25 chs., marked $\frac{1}{4}$ S 3 E.T. A palo verde tree 10 ins. in diam., brs.S. 33 $\frac{1}{2}$ ° E., 2.15 chs., marked $\frac{1}{4}$ S 2 E.T.
50.00	Descend into Sacramento Wash, course SSE. Enter dense willow and catclaw brush.
78.00	Ascend from Sacramento Wash, course SSE. Leave willow, enter dense catclaw, greasewood, mesquite, palo verde brush.
79.97	The cor. of secs. 2, 3, 10 and 11, hereinbefore described. Land, mountainous, 52.00 chs.; level, 28.00 chs. Soil, 3rd and 4th rate, stony. Dense undergrowth. Scattering timber of mesquites and palo verde. Mountainous land, or land covered with dense undergrowth, and exceptionally difficult to survey, 80.00 chains.
	At the Standard cor.of secs. 33 and 34, on the 4th. Standard Parallel North, on the south boundary of T.17 N., R. 18 W., recently established and described by me, at 12 M. At noon, I set off 19° 14' N. on the decl.arc, and observe the sun on the meridian; the resulting lat. reading is 34° 49' M. S. Thence I run, N. 0° 02' W., bet. secs 33 and 34. Over mountainous land, covered with large malpais boulders and scattering greasewood and cactus undergrowth. Ascend.
10.00	Descend.
19.00	Rocky gulch, course SW. Ascend.
40.00	Set a malpais stone, 6x8x20 ins., 18 ins. in the ground for the $\frac{1}{4}$ sec.cor., marked $\frac{1}{4}$ on the W.face; and raise a mound of stones 3 ft.base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
80.00	Continue ascent. Set a malpais stone 8x10x15 ins., 10 ins. in the ground for the cor.of secs. 27, 28, 33 and 34, marked with 1 notch on the S $\frac{1}{2}$ and S notches on the E.edges; and raise a mound of stones 3 ft.base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable. Land, mountainous and covered with large malpais boulders. Soil, 4th rate, rocky. Scattering undergrowth of greasewood and cactus. Mountainous land, and land covered with large malpais boulders, and exceptionally difficult to survey, 80.00 chains. Land west and north of this cor. exceedingly mountainous, and impracticable to survey, as the lines would immediately enter the abrupt canyons and cliffs of the southerly end of the Black Mountain range.

Subdivision of Township 17 North, Range 18 West.

13.

Chains.	
	Thence I run East, on a random line, between secs. 27 and 34.
40.00	Set temp. & sec.cor.
80.00	Intersect N. and S. line at the cor.of secs. 26, 27, 34 and 35 hereinbefore described.
	Thence I run, West on a true line, bet. secs. 27 and 34.
	Over extremely mountainous land, covered with loose rock and scattering greasewood and cactus undergrowth.
	Ascend.
7.90	Spur hrs. N.; descend.
12.00	Ascend.
25.60	Ridge brs. NNW. and SSE.; descend.
39.00	Rocky canyon, course SE.; ascend.
40.00	Set a tufa stone 6x10x15 ins., 10 ins. in the ground for the & sec.cor., marked & on the N.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, N.of cor. Pits impracticable.
	Ascend abruptly.
49.10	Ridge, brs. NW. and SE.; descend abruptly.
58.00	Deep rocky canyon, course SE.; ascend rocky 35° slope.
80.00	The cor.of secs. 27, 28, 33 and 34, hereinbefore described. Land extremely mountainous. Soil, 4th rate; volcanic rock. Scattering undergrowth of greasewood and cactus. Mountainous land, and land covered with loose rock, 80.00 chs., exceptionally difficult to survey.

May 17, 1910.

	May 18, 1910. At 9h.30m., a.m., l.m.t., I set off 34°49' N. on the lat.arc 19°28'W. on the decl.arc, and determine a meridian with the solar at the Standard cor. of secs. 32 and 33, 4th Standard Parallel North on S. bdy.of Tp. recently established and described by me.
	Thence I run, N. 0° 03'W., between secs. 32 and 33; ascend.
18.00	Line enters extremely mountainous land, impracticable to survey further, the surface being broken by canyons and cliffs of the southern end of the Black Mountains. Therefore, I discontinue line and proceed to Standard cor. of secs. 31 and 32 on S.bdy.of Tp.on 4th. Standard Parallel North, recently established and described by me.
	Thence I run, N. 0° 03'W., bet. secs. 31 and 32. Over extremely mountainous land, and very difficult to measure. Undergrowth, scattering catclaw and greasewood and cactus. Ascend steep slope.
8.80	Ridge, brs. SE.; descend.
15.00	Rocky gulch, course SE.; ascend.
23.30	Ridge, brs. NW. and SE.; descend.
28.30	Gulch, 1.00 ch. wide, covered with rocks, course SE.; ascend.
30.00	Set a malpais stone 10x12x20 ins., 15 ins. in the ground for the & sec.cor., marked & on the W.face; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
52.00	Rocky gulch, 30 lks.wide, course SSW.; ascend.
56.40	Black rock spur descend SE.; continue ascent.
71.30	High ridge, brs.E. and W.; descend.
80.00	Set a malpais stone 8x10x15 ins., 10 ins. in the ground, for the cor.of secs. 29, 30, 31 and 32, marked with 1 notch on the S. and 5 notches on the E.edges; and raise a mound of stones 3 ft. base, 1 $\frac{1}{2}$ ft. high, W.of cor. Pits impracticable.
	Land, exceedingly mountainous, and impracticable to survey to the N. or to the E. Soil, 4th rate. No timber. Scattering greasewood and cactus brush. Mountainous land, and land covered with loose rock and

14. Subdivision of Township 17 North, Range 18 West.

Chains.

	exceptionally difficult to survey, 80.00 chs.
40.00	Thence I run, West, on a random line, between secs. 30 and 31.
80.00	Set temp. 1 sec.cor.
	Intersect the Fifth Guide Meridian West at the cor. of secs. 25, 30, 31 and 36, which is a lava stone, 5 ins. above ground, marked and witnessed as described in the field notes furnished to me by the U.S. Surveyor General.
	Thence I run, East, on a true line, between secs. 30 and 31.
	Over extremely mountainous land, covered with loose rock and with a scattering undergrowth of greasewood and catclaw, and some cactus.
4.00	Wash, rocky, 1.00 ch. wide, course SE. Ascend steep slope.
11.00	Ascend abruptly.
14.00	Ridge, brs. NW. and SW.; descend.
38.00	Rocky gulch, 30 lke. wide, course SE.; ascend.
40.00	Set a malpais stone 5x9x18 ins., 12 ins. in the ground, for the 1 sec.cor., marked ♀ on the N. face; and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor.; whence,
	A pale verde tree 6 ins. in diam., brs. S 44° W., 1.74 chs., scribed ♀ S 31 E T.
	No other bearing trees available, and pits impracticable.
55.50	Continue ascent.
65.00	Ridge, brs. NE. and SW.; descend.
71.40	Rocky gulch, course SW.; ascend.
80.00	Spur, descend NE.; descend.
	The cor. of secs. 29, 30, 31 and 32, hereinbefore described.
	Land, extremely mountainous.
	Soil, 4th rate.
	Practically no timber.
	Scattering undergrowth of greasewood and pale verde, with some cactus.
	Mountainous land and land covered with loose rock and exceptionally difficult to survey, 80.00 chains.
	Note: Land to the north and east is exceedingly mountainous and impractical to subdivide by reason of intervening canyons and cliffs of the Black Mountains.
	May 18, 1910.

	May 19, 1910.
	Further subdivision of T. 17 N., R. 18 W., being impractical in the usual way, on account of the unsurveyable Black Mountain range, I proceed to the corner of secs. 10, 11, 14 and 15 hereinbefore described, and run West, on a true line, between secs. 10 and 15, ascending the east slope of the Black mountains.
	Over mountainous land, covered with malpais boulders and a scattering undergrowth of greasewood and cactus.
40.00	Set a malpais stone 10x12x18 ins., 12 ins. in the ground for the 1 sec.cor., marked ♀ on the N. face; and raise a mound of stones 3 ft. base, 1½ ft. high, N. of cor.
	Pits impracticable.
50.00	Ascend cliffs; measurements are both difficult and dangerous.
55.50	Thence ascend more gradual over boulders.
80.00	Set a malpais stone 6x8x18 ins., 12 ins. in the ground for the cor. of secs. 9, 10, 15 and 16, marked with 3 notches on the E. and 4 notches on the S. edges, and raise a mound of stones 3 ft. base, 1½ ft. high, W. of cor. Pits impracticable.
	Land, extremely mountainous, and covered with loose rock.
	Soil, 4th rate.
	Scattering undergrowth of greasewood and cactus.

Subdivision of Township 17 North, Range 18 West. 15.

Chains.

Mountainous land, and land covered with boulders, and exceptionally difficult to survey 80.00 chs.
Land to the S., W. and N. of this point is unsurveyable on account of the canyons and cliffs intervening; I therefore discontinue surveying at this cor., and proceed to cor. of secs. 2, 3, 10 and 11 hereinbefore described.

At the cor. of secs. 2, 3, 10 and 11, hereinbefore described, at noon, I set off $19^{\circ} 42' N.$ on the decl. arc, and observe the sun on the meridian; the resulting latitude reading is $34^{\circ} 53' N.$

Thence I run, West, on a true line, between secs. 3 and 10. Over mountainous land, covered with loose rock and with scattering undergrowth of catclaw, greasewood, palo verde and cactus.

2.00 Rocky gulch, 40 lks. wide, course NEE. Ascend steep slope.
40.00 Set a malpais stone 6x10x18 ins., 12 ins. in the ground for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on N. face; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, N. of cor. Pits impracticable.

Descend.

52.00 Rocky gulch, 40 lks. wide, course NE.; ascend.

53.75 Same rocky gulch, course SE.; ascend.

67.00 Spur, descending ENE.; descend.

72.00 Ascend 35° slope.

80.00 A porphyry rock in place, 3x6x8 ft. above ground for the cor. of secs. 3, 4, 9 and 10, marked with a cross (X) at the exact point for the cor., and with 3 grooves to the east and 5 grooves to the south 1 ft. distant from the cross; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable. Lines to the west and to the south run into exceedingly mountainous land, impracticable to survey. Land exceedingly mountainous, and covered with loose boulders. Scattering undergrowth of greasewood and cactus. No timber. Soil, 4th rate, rock. Mountainous land, covered with loose rock and exceptionally difficult to survey, 80.00 chains.

Thence I run,

$N. 0^{\circ} 02' W.$ on a random line, between secs. 3 and 4.

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

80.08 Cor. of secs. 3, 4, 33 and 34 on the N. bdy. of Tp., recently established and described by me, brs. W., 6 lks.

Thence I run,

$S. 0^{\circ} 05' E.$, on a true line, between secs. 3 and 4.

Over extremely mountainous land, covered with loose boulders. Scattering undergrowth of greasewood and cactus.

Descend.

24.90 Rocky gulch 40 lks. wide, course SW.; ascend.

40.08 Set a malpais stone 8x10x16 ins., 12 ins. in the ground, for the $\frac{1}{4}$ sec. cor., marked $\frac{1}{4}$ on the E. face; and raise a mound of stones 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor. Pits impracticable.

42.00 Descend.

52.00 Rocky gulch, course N.; ascend.

58.00 Spur descends to the E.; descend.

69.00 Rocky canyon, wash 15 lks. wide, course E.

64.60 Spur descends to the E.; descend.

68.40 Rocky gulch, course E.; ascend.

76.00 Spur descends to the E.; descend.

80.08 The cor. of secs. 3, 4, 9 and 10, hereinbefore described. Land, extremely mountainous.

Soil, 4th rate.

16. Subdivision of Township 17 North, Range 18 West.
Chains.

Scattering undergrowth of greasewood and cactus.
No timber.
Mountainous land, and land covered with loose rock and
exceptionally difficult to survey, 80.00 chains.
May 19, 1910.

A special survey for the Location of Improvements at
Yucca Station on the Santa Fe R.R., situate in Sec. 12.

Beginning at the high derrick already located by intersection
of bearings. Thence $S.87^{\circ}E.$, ---310 feet to a
point Sta.A.

(All improvements rectangular and first side given brs.
 $N.9^{\circ}8'W.$)

- (1) Sta.A. $N.13^{\circ}10'E.$, 95 ft. to SE.cor.Corral 50x100 ft.
- (2) " $N.32^{\circ}40'W.$, 350 " " NE. " warehouse 70x30 ft.
- (3) " $N.50^{\circ}00'W.$, 270 " " NE. " toolhouse 50x20 ft.
- (4) " $S.87^{\circ}30'W.$, 300 " " SE. " pumphouse 60x30 ft.
- (5) " $S.81^{\circ}10'W.$, 312 " " NE. " A.R.Sta. 30x30 ft.
- (6) " $N.69^{\circ}00'W.$, 370 " " SE. " residence 30x30 ft.
- (7) " $S.36^{\circ}00'W.$, 390 " " NE. " residence 40x30 ft.
- (8) " $S.39^{\circ}00'E.$, 415 " " NW. " row of three frame
cottages covering space of 35x150 ft. the latter
dimension bearing south. (wooden)

(9) Sta. A. $S.48^{\circ}05'E.$, 380 ft. to NW.cor. Yucca Merchantile
Co. store, covering space of 50x100 ft. the first di-
mension given brs. $N.15^{\circ}E.$. (sheet iron.)

(10) Sta.A. $S.52^{\circ}10'E.$, 375 ft. to NW.cor. wooden hut 15x30
ft. oriented as (9).

(11) Sta.A. $S.59^{\circ}15'E.$, 375 ft. to NW.cor. wood frame house
30x40 ft. oriented as (9).

Nos. 1 and 8 inclusive, and 10 and 11 are wooden build-
ings one story high. No. 9 is a wood frame building
covered with corrugated sheet iron.

Railroad, and telegraph lines already determined by in-
tersection with north and south boundaries of sec.

12; same tangent entirely through section.

Water tanks as follows:

(12) Sta.A., $N.58^{\circ}30'W.$, 230 ft. to center of circular
steel tank diam., 20 ft., height 60 ft.

(13) Sta.A., $N.66^{\circ}00'W.$, 225 ft. to center of steel
circular tank diam. 25 ft., height 50 ft.

Improvements Nos. 1, 2, 3, 4, 5, 6, 7, 12 and 13, are prop-
erty of the Santa Fe R.R.Co.

Improvements Nos. 8 and 9 are property of the Yucca Mer-
cantile Co.

Improvements Nos. 10 and 11 are property of Wayne Hobbs.

GENERAL DESCRIPTION.

Nearly all of this township is mountainous land, the
larger part of the westerly portion being unsurveyable
on account of the precipitous cliffs, canyons and
promontories of the Black Mountain Range proper. The
predominating topographical feature aside from the
Black Mountains is the Sacramento Wash, which takes
a southerly course through the easterly portion of
the township, and is at this season, and probably dur-
ing the greater part of the year absolutely dry. All
streams of this country are torrential in character;
that is to say, they only carry water during the rainy
season, which seems to be generally during the months

Subdivision of Township 17 North, Range 18 West.

17.

Chains.

of July and August, and December and January with often intervals of a year or more without precipitation. There are no springs within the boundaries of the township, and the only source of water was Yucca Station on the Santa Fe R.R., where a distinctly alkaline water is pumped from a well several hundred feet deep the exact depth could not be ascertained. The lack of water and the necessity for transporting same from Yucca Station to the survey camps, distinctly increased the difficulties attendant to such surveys, while the extreme heat, often reaching 120° F in the shade at this season of the year, still further hindering progress and increased the cost of the work.

At the time of this survey, there was no grass, and very little palo verde and mesquite timber, but nearly all of the lines run traversed dense desert undergrowth, peculiar to Arizona and other desert lands, consisting of cactus, catclaw, palo verde, greasewood, mesquite. The soil is 3rd and 4th rate in the surveyed portions, but practically all 4th rate in the unsurveyed sections. There are no settlers outside of Yucca Station on the Santa Fe R.R., which traverses the easterly portion of the township in a generally NNE. and SSW. direction. Yucca has about 25 inhabitants, principally employes on the railroad. The store of the Yucca Mercantile Company is established here, and supplies this small community and several small mining camps situate from 15 to 40 miles in an easterly direction.

Sections 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, and the line between secs. 32 and 33, embrace very rough mountainous land, impracticable to survey, and are therefore not included in these notes. This land as well as that embraced in Ts. 17 and 18 N., R. 19 W., include the more precipitous portion of the Black Mountains, and are unsurveyable.

William B. Alexander

July 1, 1910.

U.S. Deputy Surveyor.

FINAL OATHS OF DEPUTY SURVEYOR AND HIS ASSISTANTS.

LIST OF NAMES.

A list of the names of the individuals employed by William D Alexander

United States Deputy Surveyor, to assist in running, measuring, and marking the lines and corners described in the foregoing field notes of the survey of Subdivisions in T 17 and 18 N R 18 W and T 18, 19 and 20 N R 19 W showing the respective capacities in which they acted:

F. C. Kelton, Chainman.

W. A. Campbell, Chainman.

R. S. Darlington, Moundman.

A. M. Pogue, Moundman.

Wayne Hubbs, Axman.

C. H. French, Axman.

W. G. Carleton, Flagman.

FINAL OATH OF ASSISTANTS.

We hereby certify that we assisted

William D Alexander

United States Deputy Surveyor, in surveying all those parts or portions of the Subdivisional lines in part of T 17 & 18 N R 18 W and T 18, 19, and 20 N R 19 W

of the State

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

F. C. Kelton, Chainman.

W. A. Campbell, Chainman.

R. S. Darlington, Moundman.

A. M. Pogue, Moundman.

Wayne Hubbs, Axman.

C. H. French, Axman.

W. G. Carleton, Flagman.

Subscribed and sworn to before me this 15th

day of June, 190)

William D Alexander

⁶⁻¹⁵ Notary public is not available U.S. Deputy Surveyor without great expense and loss of time
Therefore I administer oaths of assistants.

FINAL OATH OF UNITED STATES DEPUTY SURVEYOR.

I, William B. Alexander, United States Deputy Surveyor, do solemnly swear that, in pursuance of a contract received from Frank S. Dugay United States Surveyor General for Arizona Territory, bearing date of the 26th day of May, 1909, 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 Arizona, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of Subdivisional lines in part of T 17 & 18 N R 18 W and T 18, 19, and 20 N R 19 W

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

William B. Alexander
United States Deputy Surveyor.

Subscribed by said William B. Alexander, and sworn to before me
this 19th day of September, 1910



W. B. Alexander
U.S. Surveyor

APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, Feb. 26 1913

The foregoing field notes of the survey of the subdivision lines in part

in Tp. 17 North, Range 18 West

Gila and Salt River Base & Meridiana
Arizona

executed by William B. Alexander, U.S. Deputy Surveyor
under his contract No. 156, dated May 26, 1909, having been
critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Frank S. Dugay
United States Surveyor General.

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

United States Surveyor General.