3967 ORIGINAL 195 (1)

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Book A.

BOOK 3967

FIELD NOTES

of the independent resurvey of the Fourth Standard Parallel South along the south boundary of T.20 S.,through Rs.5 and 6 E.,

Of the Gila and Salt River Base and *Meridian,*

In the State of Arizona

EXECUTED BY

William E.Hiester,U.S.Surveyor

In the capacity of U. S. Surveyor, under Special Instructions dated December 1, *19*31, *issued by the District Cadastral Engineer to govern surveys included in Group No.* 172, *which were approved by the Commissioner of the General Land Office,* December 29, *19*31, *and Assignment Instructions dated* December 4, *19*31

Survey commenced January 18, *19*32.

Survey completed January 26, *19*32.

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INDEX DIAGRAM.

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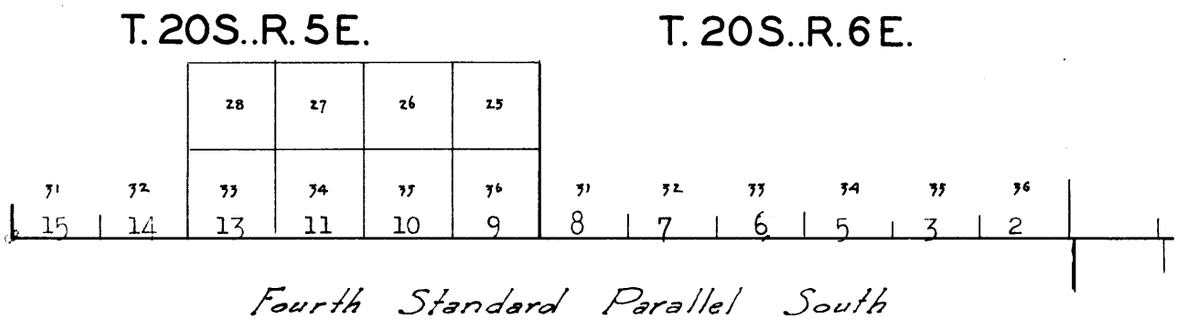
GOVERNMENT PRINTING OFFICE

BOOK 3967

INDEX DIAGRAM



The survey was executed with a light mountain transit made by Buff and Buff, Serial No.19423, constructed in accordance with the standard specifications of the General Land Office.The horizontal circle has a diameter of 4½ ins.,with two double opposite verniers reading to single minutes;the vertical circle has a diameter of 4 ins.with one double vernier reading to single minutes. The instrument is equipped with the improved Smith solar attachment;radius of latitude arc 2½ ins.and of the declination arc 3½ ins.,each with verniers reading to single minutes.The instrument was in good condition and having been placed in satisfactory adjustment prior to beginning the survey,and tested and found free from appreciable error,was approved by the district cadastral engineer on Nov.15,1931.I examine all the instrumental adjustments before making the field tests hereinafter recorded.

The direction of all lines were determined by the solar transit method.The measurements were made with a Lallie steel tape 5 chs.in length,graduated every link for the first 100 lks.and the balance at intervals of 10 lks. The tape was tested by comparison with a Lufkin standard and found correct.The measurements were made on the slope and the vertical angle of each interval was ascertained by clinometer in good adjustment;the horizontal equivalents are entered in the field record.

The data furnished with the special instructions gives the geographic position of the SE.cor.of T.20 S.,R.5 E., G & S.R.M.,as follows: latitude 31°38'26"N.,longitude 111°46'51"W.

January 16,1932 in camp near the ¼ sec.cor.of secs.35 and 36,T.20 S.,R.5 E.,at 11h 53m 12s p.m.,l.m.t.,I observe Polaris at western elongation making four observations,two each with the telescope in direct and reversed positions,and place a tack at the mean point on a peg driven firmly in the ground 10 chs.N.

January 17,1932,after sunrise I lay off the azimuth of Polaris 1°14'17" and make a meridian on a second peg to the east of the mean point in the line determined by the observation.

In order to verify the latitude of this station and the reading of my watch I make a meridian observation of the sun,first setting on the lower limb and noting the transit of the west limb,then after reversal of the instrument,setting on the upper limb and noting the transit of the east limb as follows:

Mean observed altitude---------- -----	37°30'45"
Reduced latitude	31°38'33"
Mean watch time of observation	12h40m10s
Watch fast of l.m.t	30m15s
Same by reference to radio and calculated difference in longitude	27m21s

Every 30 m .from 7 to 10.30 a.m.,and from 1.30 to 4 p.m. I make proper settings on the arcs of the solar attachment and ascertain that the resulting orientation of the instrument when compared with a meridian established by Polaris observation has a maximum error of less than 1' 30".

I repeat the tests of the arcs daily by noon observations and verify the meridional indications at frequent intervals throughout the survey.

Resurvey of the Fourth Standard Parallel South along S. Bdy. T 20 S.,R.6 E.

Chains.	
	The fourth standard parallel south through Tps. 20 S., Rs.5 and 6 E.,was surveyed in 1885 by Louis Wolfley, U.S. Deputy Surveyor.
	The following notes describe a resurvey of the fourth standard parallel south through Tps. 20 S.,Rs.5 and 6 E.
	Beginning at the standard cor. of Tp .20 S.,Rs.6 and 7 E., which is a granite stone in place 24x18x18 ins.marked SC and 6 notches on N.face and 6 notches on E.and W. edges,with mound of stone on north. Alongside of original stone.
	Set an iron post,3 ft.long,3 ins.diam.,26 ins.in the ground,for standard cor.of Tp .20 S.,Rs.6 and 7 E., with brass cap mkd. SC T20S R6E | R7E S36 | S31 1932
	rebuild mound of stone,3 ft.base,2 ft.high,N.of cor.
	Thence
	West,with the establishment of the fourth standard parallel south along S,bdy.of sec.36,T.20 S.,R.6 E.,on a transit line,describing the tangent which bears S.89°59.5'W.
	Over mountainous land,through dense undergrowth.
	Desc.122 ft.over NW.slope.
12.23	Rocky wash,20 lks.wide,16 ft.deep,course SW.;asc.16 ft. over SE.slope.
23.50	Spur,slopes SW.;desc.82 ft.over W.slope.
27.67	Head of draw,course NW.
29.00	Draw,course NW.;asc.17 ft.over NE.slope.
31.85	Continue along N.slope.
38.00	Low spur,course N.;desc.31 ft.over W.slope.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
	On the tangent,
40.00	Set an iron post,3 ft.long, 1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd. SC ¼ S 36 1932
	from which
	A mesquite,10 ins.diam.,bears S.45°E.,159 lks.dist., mkd.BT.
	A mesquite 5 ins.diam.,bears N.51¼°E.,18 lks.dist., mkd. ¼ S 36 S C B T.

Chains.	
	From this cor.the old standard ¼ sec.cor.of sec.36,bears N.53°W.,6 lks.dist.,said cor.is a dead palo verde,12 ins.diam.,lying on the ground,marks illegible.
	I destroy all evidence of this cor.
	Descend 23 ft.over W.slope.
45.00	Head of draw,course S.;asc.35 ft.
51.50	Top of ascent;desc.74 ft.over top of ridge.
56.00	Continue along N.slope.
61.00	Low saddle,bears E.and SW.;asc.6 ft.
79.00	Leave ridge,bears E.and SW.;desc.31 ft.over NW.slope.
	Diff bet.meas.of 80.00 chs.,by two sets of chainmen,is 1 lk.;position of middle point- By 1st set,80.005 chs. By 2nd set,79.995 chs.;the mean of which is
80.00	N.1 lk.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,27 ins.in the ground,for standard cor.of secs.35 and 36,with brass cap mkd. SC T20SR6E S35 | S36 1932
	from which
	A mesquite,8 ins.diam.,bears N.3°E.,350 lks.dist., mkd. T 20 S R 6 E S 36 S C B T.
	A mesquite,9 ins.diam.,bears N.7½°W.,257 lks.dist., mkd. T 20 S R 6 E S 35 S C B T.
	From this cor.the old standard cor.of secs.35 and 36, bears S.8½°W.,141 lks.dist.,which is a granite stone, 20x8x4 ins.above ground,mkd.1 groove on E. 5 grooves on W.and SC.on N.faces,with mound of stone N.
	I destroy all evidence of this cor.
	Land,mountainous. Soil rocky;3 rd rate. Timber,scattering mesquite and palo verde;undergrowth, dense mesquite,catclaw and greasewood.
	West,along the S.bdy.of sec.35,on a transit line,describing the tangent,which bears S.89°59'00"W.
	Over rolling land,through dense undergrowth.
2.90	Descend 75 ft.over NW.slope.
6.44	Wash,50 lks.wide,4 ft.deep,course SW.
14.83	Bend in same wash,from E. course SW.;continue along N. bank of wash.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen is

4 Resurvey of the Fourth Standard Parallel South along

S.Bdy.T.20 S.,R.6 E.

Chains	
	1 lk.;position of middle point- By 1st set,40.005 chs., By 2nd set,39.995 chs.;the mean of which is
40.00	N.1 lk.from the tangent, Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd. S C ¼ S 35 1932 from which A mesquite,11 ins.diam.,bears N.35 3/4°E.,46 lks.dist., mkd. ¼ S 35 S C B T. A mesquite,6 ins.diam.,bears N.45°W.,95 lks.dist.,mkd. ¼ S 35 S C B T. No trace of the original standard ¼ sec. cor.
46.90	Bend in same wash,from SE.course SW.
54.60	Continue along right bank of same wash.
59.60	Leave wash,course SW.
68.10	Ravine,8 ft.deep,course SW.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is 1 lk.;position of middle point- By 1st set,80.005 chs. By 2nd,set,79.995 chs.;the mean of which is
80.00	N.2½ lks.from the tangent, Set an iron post,3 ft.long,2 ins.diam.,20 ins.in the ground to bedrock,and in a mound of stone to top,for standard cor.of secs.34 and 35,with brass cap mkd. SC T20SR6E S34|S35 1932 from which A mesquite,4 ins.diam.,bears N.23°E.,109 lks.dist., mkd.S C B T. A mesquite,10 ins.diam.,bears N.10°W.,157 lks.dist., mkd. T 20 S R 6 E S 34 S C B T. From this cor.the old standard cor.of secs.34 and 35, bears S.3°W.,120 lks.dist.,which is a granite stone,10x 6x6 ins.above ground,mkd. 2 grooves on E.4 grooves on W. and SC on N.faces,with mound of stone N. I destroy all evidence of this cor. Land,rolling. Soil,sandy and gravelly;2nd rate. Timber,scattering ironwood and mesquite;undergrowth,palo verde,catclaw and cactus.

Chains	
	West,along the S.bdy.of sec.34,on a transit line,describing the tangent,which bears S.89°58.4'W.
	Over level land,through dense undergrowth.
39.90	Ravine,course SW.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.4 lks.from the tangent,
	Set an iron post,3 ft.long,1 in.diam.,16 ins.in the ground to bedrock, and in a mound of stone to top,for standard ¼ sec.cor.with brass cap mkd. SC ¼ S 34 1932
	from which
	A palo verde,6 ins.diam.,bears N.49½°E.,96 lks.dist., mkd.¼ S 34 S C B T.
	A mesquite,10 ins.diam.,bears N.83 3/4°W.,309 lks.dist mkd.¼ S 34 S C B T.
	From this cor.the old standard ¼ sec.cor.of sec.34,bears S.18°W.,295 lks.dist.,which is an ironwood,post 2 ins. sq.lying on the ground,marks illegible.
	I destroy all evidence of this cor.
52.40	Dim road,bears NE.and SW.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.5½ lks.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of secs.33 and 34,with brass cap mkd. SC T20SR6E S33|S34 1932
	from which
	A mesquite,5 ins.diam.,bears N.53°E.,181 lks.dist., mkd. T 20 S R 6 E S 34 S C B T.
	A mesquite,6 ins.diam.,bears N.32 3/4°W.,278 lks.dist., mkd.T 20 S R 6 E S 33 S C B T.
	No trace of the old standard cor.of secs.33 and 34.
	Land,level. Soil,sandy and silt;2 nd rate. Timber,scattering mesquite;undergrowth,catclaw,mesquite and palo verde.

Chains.	
	West,along the S.bdy.of sec.33,on a transit line,describing the tangent which bears S.89°57.9'W.
	Over level land,through dense undergrowth.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.7½ lks.from the tangemt,
	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd. SC ¼ S33 1932
	from which
	A mesquite,5 ins.diam.,bears N.41°E.,122 lks.dist., mkd.¼ S 33 S C B T.
	A mesquite,4 ins.diam.,bears N.23°W.,138 lks.dist., mkd.¼ S 33 S C B T.
	U.S.I.S.well at San Miguel,bears S.58°20'W.
	No trace of the old standard ¼ sec.cor.
53.30	Wash,10 lks.wide,course SW.
65.20	Wash,15 lks.wide,3 ft.deep,course SW.
71.10	Same wash,course NW.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.10 lks.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of secs.32 and 33,with brass cap mkd. SC T20SR6E S32|S33 1932
	from which
	A mesquite,8 ins.diam.,bears N.17°E.,79 lks.dist.,mkd. T 20 S R 6 E S 33 S C B T.
	A mesquite,6 ins.diam.,bears N.24½°W.,133 lks.dist., mkd.T 20 S R 6 E S 32 S C B T.
	From this cor.the old standard cor.of secs.32 and 33, bears S.4½°W.,266 lks.dist.,which is an ironwood post, 4 ins.sq.2 ft.long,lying on the ground,marks illegible.
	I destroy all evidence of this cor.
	Land.level. Soil,alluvial silt and loam; 1st rate. Timber,scattering mesquite and ironwood;undergrowth,catclaw,mesquite and cactus.

Chains.	
	West, along the S.bdy.of sec.32,on a transit line, describing the tangent which bears S.89°57.4'W.
	Over level land,through dense undergrowth.
22.40	Wash,30 lks.wide,4 ft.deep,course SW.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd. SC ¼ S 32 1932 from which
	A mesquite,3 ins.diam.,bears North,134 lks.dist.,mkd. ¼ S 32 S C B T.
	A mesquite,12 ins.diam.,bears N.25½°W.,237 lks.dist., mkd.¼ S 32 S C B T.
	Baboquivari Peak,bears N.44°41'E.
	From this cor.the witness tree for the old standard ¼ sec.cor.bears S.32°45'E.,174 lks.dist.,mks.illegible. No trace of the original standard ¼ sec.cor.
	I destroy the marks on this tree.
55.00	Old road,bears NE.and SW.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.15½ lks.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of secs.31 and 32,with brass cap mkd. SC T20SR6E S31 | S32 1932 from which
	A mesquite,8 ins.diam.,bears N.37 3/4°E.,191 lks.dist., mkd.T 20 S R 6 E S 32 S C B T.
	A mesquite,12 ins.diam.,bears N.51 3/4°W.,174 lks. dist.,mkd.T 20 S R 6 E S 31 S C B T.
	Baboquivari Peak,bears N.46°12'E.
	From this cor.the witness tree for the old standard cor. of secs.31 and 32,bears S.7°45'W.,192 lks.dist.,marks visible B T.No trace of the original standard cor.of secs.31 and 32.I destroy themarks on this tree.
	Land.level. Soil,alluvial silt and loam;1st rate. Timber,mesquite;undergrowth catclaw.

Resurvey of the Fourth Standard Parallel South along

S.Bdy.T.20 S.,R.6 E.

Chains.	
	West,along the S.bdy.of sec.31,on a transit line, describing the tangent which bears S.89°56.9'W.
	Over level land,through scattering undergrowth.
30.50	Old road,bears SE.and NW.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.18½ lks.from the tangent,
	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd.
	SC ¼ S 31 1932
	from which
	A mesquite,10 ins.diam.,bears N.3°E.,221 lks.dist., mkd.¼ S 31 S C B T.
	A mesquite,4 ins.diam.,bears N.48½°W.,135 lks.dist., mkd.¼ S 31 S C B T.
	No trace of the original standard ¼ sec.cor.
40.90	Brush fence,bears SE.and NW.
42.72	Wire fence,bears N.and S.
46.80	Enter cultivated field,bears N.and S.
52.70	Leave field,bears N.and S.
60.00	Drain,10 lks.wide,course NW.
62.94	Wire fence,bears N.and S.
65.60	Road,bears N.30°E.,and S.30°W.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.22½ lks.from the tangent.
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of Tps.20 S.,Rs.5 and 6 E., with brass cap mkd.
	SC T20S R5E | R6E S36 | S31 1932
	from which
	A mesquite,10 ins.diam.,bears N.43°E.,155 lks.dist., mkd.T 20 S R 6 E S 31 S C B T.
	A mesquite,10 ins.diam.,bears N.52¼°W.,255 lks.dist., mkd.T 20 S R 5 E S 36 S C B T.
	Baboquivari Peak,bears N.49°E.
	SE.cor.of house,bears N.19 3/4°W.,about 7 chs.dist.
	U.S.I.S.well at San Miguel,bears S.1½°E.

Chains	
	From this cor. the original NW.bearing tree for the old standard cor.of Tp .20 S.,Rs.5 and 6 E.,bears S.17½°W., 227 lks.dist.,marks visible BT.
	No trace of the original standard cor.
	I destroy all evidence of the marks on the orig. NW. bearing tree.
	Land,level. Soil,alluvial silt and loam;1st rate. Timber,scattering mesquite;undergrowth catclaw.

January 20,1932,on the tangent at the cor.of Tp .20 S., Rs.5 and 6 E.,in order to verify the alinement of the fourth standard parallel south,I bisect Polaris,follow the motion of the star to western elongation,at 11h 37. m.,p.m.,l.m.t.,and mark the direction upon a peg driven firmly in the ground 10 chs.N.I then reverse the instrument,again bisect Polaris,and mark the direction upon the peg.Without changing the instrument in horizontal motion,I sight to Polaris to make certain that the settings were made at elongation;there appeared to be no deviation in azimuth for some 15 or 20 minutes.

January 21: I lay off the azimuth of Polaris,1°14'17" to the east of the mean direction determined by the observation and set a point for the test meridian;then by direct and reversed sights,I ascertain that the angle subtended by the last back-sight flag on the fourth standard parallel south bears N.89°56.9'E.

Resurvey of the Fourth Standard Parallel South along S.Bdy.T.20 S.,R.5 E.

Chains	
	From the standard cor.of Tp .20 S.,Rs.5 and 6 E.
	West,along the S.bdy.of sec.36,on a transit line,describing the tangent,which bears S.89°59.5'W.
	Over level land,through scattering timber and undergrowth.
5.47	Road,bears N.and S.
25.50	Old road,bears N.and S.
	Diff.bet.meas.of 40.00 chs.by two sets of chainmen,is nothing.
40.00	0 lks.from the tangent,
	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd.

SC
¼ S36
1932

from which

A mesquite,8 ins.diam.,bears N.14°E.,275 lks.dist., mkd. ¼ S 36 S C B T.

Chains.	
	A mesquite,5 ins.diam.,bears N.7°W.,279 lks.dist., mkd. ¼ S 36 S C B T.
	No trace of the old standard ¼ sec.cor.
46.10	Drain along highway,bears SE.and NW.
48.70	Graded road,bears S.15°08'E.,to San Miguel,and N.15°08'W. to Sells Arizona.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.1 lk.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins. in the ground,for standard cor.of secs.35 and 36,with brass cap mkd.
	SC T20SR5E S35 | S36 1932
	from which
	A mesquite,6 ins.diam.,bears N.40¼°E.,205 lks.dist., mkd. T 20 S R 5 E S 36 S C B T.
	A mesquite,10 ins.diam.,bears N.34¼°W.,128 lks.dist., mkd. T 20 S R 5 E S 35 S C B T.
	NE.cor.of house,bears S.70°23'W.,about 40 chs.dist.
	No trace of the original standard cor.of secs.35 and 36.
	Land,level. Soil,alluvial silt and loam;1st rate. Timber,scattering mesquite;undergrowth catclaw.
	West,along the S.bdy.of sec.35,on a transit line describing the tangent which bears S.89°59'W.
	Over level land,through scattering mesquite.
23.00	Road,bears SE.and NW.
25.75	Wash,20 lks.wide,course N.
27.00	Road,bears N.and S.
27.30	S.W.cor.of adobe house,bears N.51°45'W.
36.60	Road,bears N.and S.
37.40	Wire fence,bears N.and S.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.1 lk.from the tangent,
	Set an iron post,3 ft.long, 1 in.diam.,28 ins. in the ground,for standard ¼ sec.cor.with brass cap mkd.
	SC ¼ S35 1932

Chains.	
	from which
	A mesquite,5 ins.diam.,bears N.53¼°E.,87 lks.dist., mkd. ¼ S 35 S C B T.
	A mesquite,6 ins.diam.,bears N.14¼°E.,15 lks.dist., mkd. ¼ S 35 S C B T.
	An adobe house bears South about 7 chs.dist.
	No trace of the original standard ¼ sec.cor.
40.10	E.bank of reservoir,bears S.and NW.
41.70	Dam on W.bank of reservoir,bears NE.and SE.
42.40	Brush fence,bears NE.and SW.
45.00	Enter dense mesquite brush,beras N.and S.
46.70	Wash,25 lks.wide,5 ft.deep,course NW.
47.10	Wash,15 lks.wide,4 ft.deep,course NW.
52.30	Wire fence,bears SE.and NW.
67.50	Wash,50 lks.wide,5 ft.deep,course NW.
75.00	Leave dense mesquite,bears NE.and SW;continue through scattering undergrowth.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.2½ lks.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of secs.34 and 35,with brass cap mkd.
	SC T20SR5E S34 | S35 1932
	from which
	A mesquite,6 ins.diam.,bears N.5½°E.,212 lks.dist., mkd. T 20 S R 5 E S 35 S C B T.
	A mesquite,10 ins.diam.,bears N.78 3/4°W.,176 lks.dist, mkd. T 20 S R 5 E S 34 S C B T.
	No trace of the original standard cor.of secs.34 and 35.
	Land,level. Soil,alluvial silt and loam;1st rate. Timber,mesquite;undergrowth catclaw.
	West,along the S.bdy.of sec.34,on a transit line,describing the tangent,which bears S.89°58.4'W.
	Over level land,through scattering undergrowth.
1.20	Wire fence,bears S.22°45'E.,and N.22°45'W.
3.70	Road,bears NE.and S.

Chains.	
12.30	Road,bears S.10°E.,and N.10°W.;cor.of fence bears N. about 350 lks.dist.
22.00	Drain,10 lks.wide,course NE.
36.05	Road,bears NE.and SW.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.4 lks.from the tangent,
	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd.
	SC ¼ S34 1932
	from which
	A mesquite,7 ins.diam.,bears N.15°E.,264 lks.dist., mkd.¼ S 34 S C B T.
	A mesquite,8 ins.diam.,bears N.50 3/4°W.,349 lks.dist., mkd. ¼ S 34 S C B T.
	U.S.I.S.well at San Miguel,Ariz.,bears S.59°07'E.
	High rocky peak,bears N.54°53'E.
	No trace of the original standard ¼ sec.cor.
52.70	Wash,15 lks.wide,2 ft.deep,course NE.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is 1 lk.;position of middle point- By 1st set,80.005 chs. By 2nd set,79.995 chs.;the mean of which is
80.00	N.5½ lks.from the tangent,
	Set an iron post,3 ft.long,2 ins.diam.,28 ins.in the ground,for standard cor.of secs.33 and 34,with brass cap mkd.
	SC T20SR5E S33|S34 1932
	from which
	A mesquite,6 ins.diam.,bears N.16½°E.,41 lks.dist., mkd. T 20 S R 5 E S 34 S C B T.
	A mesquite,10 ins.diam.,bears N.51½°W.,122 lks.dist., mkd. T 20 S R 5 E S 33 S C B T.
	From this cor.the old standard cor.of secs.33 and 34, bears S.7°W.,267 lks.dist.,which is an ironwood post, 4 ins.sq. standing firmly 12 ins.above the ground,mks. illegible.
	I destroy all evidence of this cor.
	Land,level. Soil,alluvial silt and loam;1st rate.

Chains	Timber, scattering mesquite and palo verde; undergrowth, scattering catclaw.
	West, along the S.bdy. of sec.33, on a transit line describing the tangent which bears S.89°57.9'W.
	Over level land, through scattering undergrowth.
13.50	Wash, 20 lks. wide, course N.
	Diff. bet. meas. of 40.00 chs., by two sets of chainmen, is nothing.
40.00	N.7½ lks. from the tangent,
	Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the ground, for standard ¼ sec. cor. with brass cap mkd. SC ¼ S 33 1932
	from which
	A mesquite, 4 ins. diam., bears N.51½°E., 123 lks. dist., mkd. ¼ S 33 S C B T.
	A mesquite 10 ins. diam., bears N.51 3/4°W., 129 lks. dist., mkd. ¼ S 33 S C B T.
	No trace of the original standard ¼ sec. cor.
62.80	Wash, 15 lks. wide, course N.10°E.
	Diff. bet. meas. of 80.00 chs., by two sets of chainmen, is nothing.
79.70	N.10 lks. from the tangent,
	Set an iron post, 3 ft. long, 2 ins. diam., 28 ins. in the ground, for witness standard cor. of secs. 32 and 33, with brass cap mkd. WC SC T20SR5E S32 | S33 1932
	from which
	A mesquite, 5 ins. diam., bears N.58¼°E., 259 lks. dist., mkd. W C T 20 S R 5 E S 33 S C B T.
	A mesquite 4 ins. diam., bears N.46 3/4°W., 198 lks. dist. mkd. W C T 20 S R 5 E S 32 S C B T.
80.00	True point for standard cor. of secs. 32 and 33, falls in wash, 20 lks. wide, 4 ft. deep, course N.20°W.
	No. trace of the original standard cor. of secs. 32 and 33.
	Land, level. Soil, alluvial silt and loam; 1st rate. Timber, scattering mesquite, ironwood and palo verde. Undergrowth scattering catclaw.

Resurvey of the Fourth Standard Parallel South along

. . . S.Bdy. T.20 S.,R.5 E.

Chains	
	Thence from true point for cor.
	West, along the S.bdy. of sec.32, on a transit line, describing the tangent which bears S.89°57.4'W.
	Over level land, through dense undergrowth.
	Diff.bet.meas.of 40.00 chs., by two sets of chainmen, is nothing.
40.00	N.12½ lks.from the tangent,
	Set an iron post, 3 ft.long, 1 in.diam., 28 ins.in the ground, for standard ¼ sec.cor.with brass cap mkd.
	SC ¼ S 32 1932
	from which
	A mesquite 6 ins.diam., bears N.61°E., 130 lks.dist., mkd. ¼ S 32 S C B T.
	A mesquite, 10 ins.diam., bears N.40°E., 159 lks.dist., mkd. ¼ S 32 S C B T.
	From this cor.the old standard ¼ sec.cor.of sec.32, bears S.2°15'W., 260 lks.dist., which is a mesquite post, 3x3 ins. standing firmly 30 ins.above the ground, mks.illegible.
	I destroy all evidence of this cor.
54.60	Wash, 10 lks.wide, course N.
62.30	Road, bears NE. and SW.
68.55	Wash, 8 lks.wide, course N.
	Diff.bet.meas.of 80.00 chs., by two sets of chainmen, is nothing.
80.00	N.15½ lks.from the tangent,
	Set an iron post, 3 ft.long, 2 ins.diam., 28 ins.in the ground, for standard cor.of secs.31 and 32, with brass cap mkd.
	SC T20SR5E S31 | S32 1932
	from which
	A mesquite 8 ins.diam., bears N.45¼°E., 95 lks.dist., mkd. T.20 S R 5 E S 32 S C B T.
	A mesquite, 8 ins.diam., bears N.39 3/4°W., 40 lks.dist., mkd. T 20 S R 5 E S 31 S C B T.
	No.trace of the original standard cor.of secs.31 and 32.
	Land, level. Soil, sand and gravelly; 2nd rate. Timber, scattering ironwood, palo verde and mesquite. Undergrowth, scattering catclaw.

Chains.	
	West along the S.bdy.of sec.31,on a transit line, describing the tangent,which bears S.89°56.9'W.
	Over level land,through dense undergrowth.
.65	Wash,15 lks.wide,course NW.
10.50	Wash,10 lks.wide,course N.10°E.
29.20	Drain,course NE.
	Diff.bet.meas.of 40.00 chs.,by two sets of chainmen,is nothing.
40.00	N.18½ lks.from the tangent,
	Set an iron post,3 ft.long,1 in.diam.,28 ins.in the ground,for standard ¼ sec.cor.with brass cap mkd.
	SC ¼ S 31 1932
	from which
	A mesquite,6 ins.diam.,bears N.33°E.,34 lks.dist., mkd. ¼ S 31 S C B T.
	An ironwood,8 ins.diam.,bears N.14 3/4°W.,90 lks.dist., mkd. ¼ S 31 S C B T.
	High rocky peak,bears N.60°10'E.
	No trace of the original standard ¼ sec.cor.
44.90	Wash,20 lks.wide,course N.
55.00	Shallow sandy wash,30 lks.wide,course NE.
63.70	Wash,20 lks.wide,course N.
	Diff.bet.meas.of 80.00 chs.,by two sets of chainmen,is nothing.
80.00	N.22½ lks.from the tangent,
	Set an iron post,3 ft.long,3 ins.diam.,28 ins.in the ground,for standard cor.of Tp .20 S.,Rs.4 and 5 E., with brass cap mkd.
	SC T20S R4E | R5E S36 | S31 1932
	from which
	A palo verde,6 ins.diam.,bears N.11½°E.,48 lks.dist., mkd. T 20 S R 5 E S 31 S C B T.
	A mesquite,6 ins.diam.,bears N.68¼°W.,275 lks.dist., mkd. T 20 S R 4 E S 36 S C B T.
	High rocky peak,bears N.60°55'E.
	No trace of the original standard cor.of Tp .20 S.,Rs. 4 and 5 E.

Chains. Land,level.
Soil,sandy;3rd rate.
Timber,scattering ironwood,palo verde and mesquite.
Undergrowth,scattering mesquite,and catclaw.

Final Test.

Jan.22,1932;on the tangent near the standard cor.of Tp 20 S.,Rs.4 and 5 E.,in order to verify the alinement of the tangent,in latitude 31°38'12"N.,longitude 111°52'57" W.,I make an hour angle observation of Polaris west of the meridian,making four observations,two each with the telescope in direct and reversed positions,marking the mean point in the line thus determined,on a peg driven firmly in the ground 10 chs.N.

Mean watch time of observation p.m ------ -	7h02m
Watch fast of l.m.t ----------	30m15s
Same by reference to radio and calculated - difference in longitude ----------	27m32s
Mean azimuth of Polaris west ----------	19'24"
Mean bearing of the tangent ----------	N.89°57'00"E.
Bearing of point on peg ----------	N.00°19'24"W.
Angle turned----------	90°16'24"

General Description.

The land along the fourth standard parallel south through Tp .20 S.,Rs.5 and 6 E.,lies entirely in the Baboquivari Valley,about two miles northerly from San Miguel,Arizona.Along the standard is found a dense growth of mesquite,ironwood,palo verde and catclaw. The soil is alluvial silt and loam,1st rate.

A good graded road,crosses the standard near the ¼ sec. cor.of sec.36,T.20 S.,R.5 E.,from San Miguel to Sells Arizona.

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(August, 1926)

FIELD ASSISTANTS.

NAMES.	CAPACITY.
John B. Mc Clung	1st. chainman
Cal Davis	2nd. chainman
J.P.Hester	Flagman
Ivan Dial	Moundsman
Cecil Emmons	Axeman.

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BOOK 3967

CERTIFICATE OF UNITED STATES SURVEYOR

I, William E. Hiester, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the District Cadastral Engineer for Arizona bearing date of the 1st. day of December, 1931, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, Independently resurveyed the Fourth Standard Parallel South along the south boundary of Township 20 South, through Ranges 5 and 6 East,

of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been executed by me, and under my direction; and that all the corners of said survey have been established and perpetuated in strict accordance with the Manual of Surveying Instructions, and the special written instructions of the District Cadastral Engineer 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 E. Hiester

San Francisco, California. *U. S. Surveyor.*
June 1, 1932.

APPROVAL

OFFICE OF U. S. SUPERVISOR OF SURVEYS,

Denver, Colorado, May 1, 1933.

The foregoing field notes of the Independent resurvey of the Fourth Standard Parallel South along the south boundary of Township 20 South, through Ranges 5 and 6 East, of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by William E. Hiester, U. S. Surveyor,

under his special instructions dated December 1, 1931, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

U. S. Supervisor of Surveys.

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

~~*U. S. Supervisor of Surveys.*~~

U. S. GOVERNMENT PRINTING OFFICE: 1927 6—2764