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# FIELD NOTES

OF THE SURVEY OF

part of the West boundary,

and part (completion) of the Subdivision lines of

Township 24 North, Range 12 West,

(In the Hualpai Indian Reservation)

Of the Gila and Salt River Base and Meridian,

In the State of Arizona

EXECUTED BY

James C. O'Brien, U. S. Surveyor,

In the capacity of U. S. Surveyor, under Special Instructions dated February 26, 1920, issued by the United States Surveyor General to govern surveys included in Group No. 109, Arizona, which were approved by the Commissioner of the General Land Office, March 10, 1920, and Assignment Instructions dated September 10, 1920

Survey commenced September 10, 1920

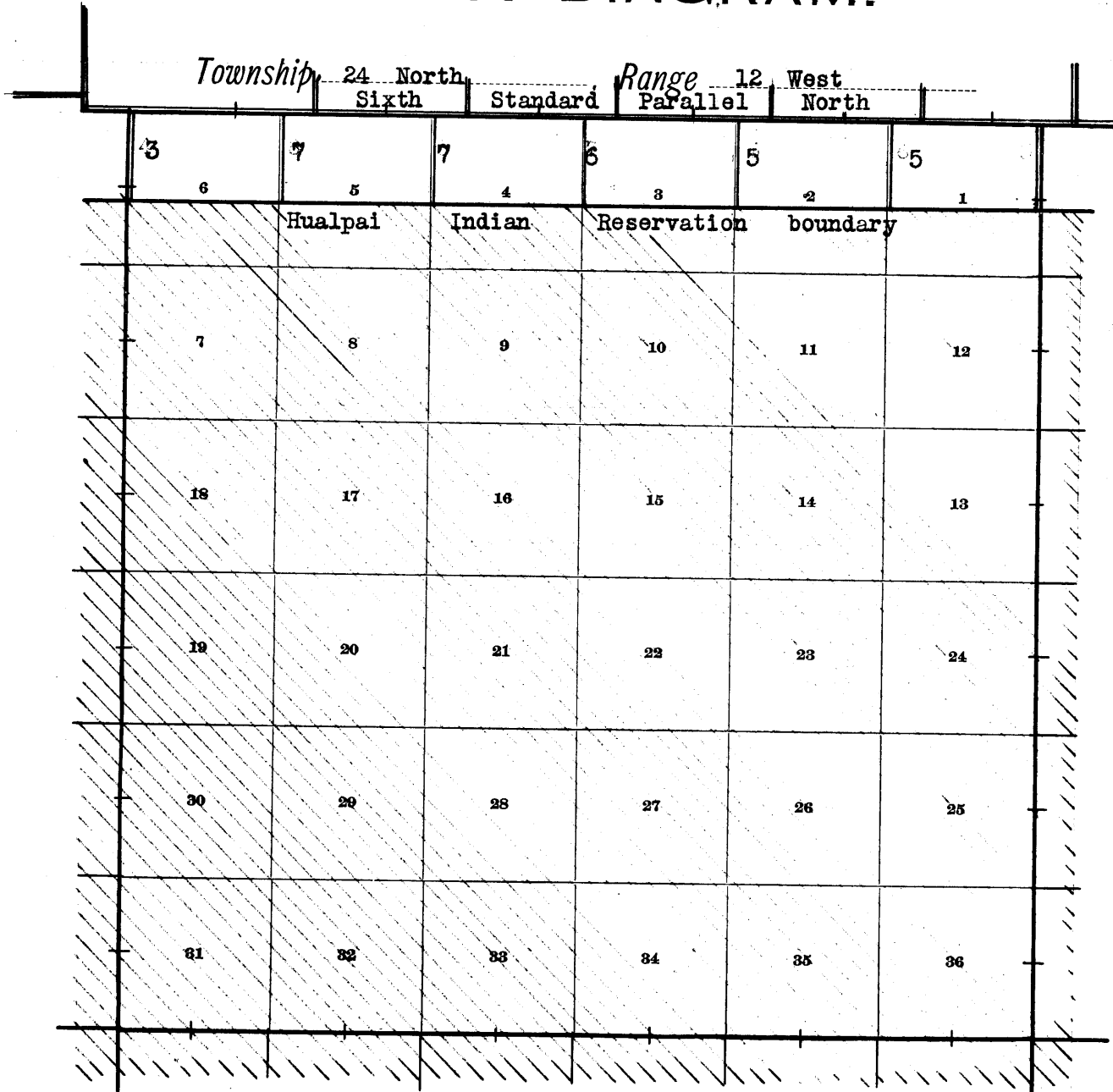
Survey completed September 13, 1920

3549

3549

BOOK 3549

# INDEX DIAGRAM.



- ==== Surveyed under this Group
- ==== Surveyed under current Group 108
- Accepted surveys
- /// Areas surveyed as shown by accepted plats on file

Date Diagram  
Year 1920

Township 24 North, Range 12 West

Sixth Standard Parallel North For dates of survey see Book "B"

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

On the above diagram, red lines indicate surveys executed by James C. O'Brien, U.S. Surveyor, on dates shown thereon; black lines indicate accepted surveys, and blue lines indicate surveys under Current Group No. 108.

Surveys hereinafter described executed by Janes C. O'Brien, U.S. Surveyor, on dates shown on diagram on page 1 hereof, using Young and Sons' light mountain transit No. 8389, described with certificate of approval in Book "B".

Unless otherwise specified, all measurements are made with a Lufkin steel tape, 5 chs. in length, compared with a Chesterman standard steel tape, and found correct. The measurements are made on the slope, the vertical angles determined, and the slope measurements properly reduced to true horizontal distances.

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

Sept. 9, 1920. At our camp at Mud Tank, in sec. 34, T. 25 N., R. 12 W., G. and S. R. B. and M., lat.  $35^{\circ}31'N.$ , long.  $113^{\circ}33\frac{1}{2}'W.$ , at 3 hrs. 0 m., p.m., l.m.t., I set off  $35^{\circ}31'N.$  on the lat. arc;  $5^{\circ}11'N.$  on the decl. arc, and determine a meridian with the solar, and mark a point in the line thus determined by a tack driven in a stake, firmly set in the ground, 5 chs. N. of my station.

At 8 hrs. 21 m., p.m., l.m.t., I observe Polaris at eastern elongation, in accordance with the Manual of instructions, and mark a point in the line thus determined by a tack in a stake, firmly driven in the ground, 5 chs. N. of my station.

Sept. 10, 1920. At 8 hrs. 0 m., a.m., l.m.t., I lay off the azimuth of Polaris,  $1^{\circ}22\frac{1}{2}'$  to the west, and mark the true meridian thus determined by a tack in a stake, firmly set in the ground, 5 chs. N. of my station.

At 9 hrs. 0 m., a.m., l.m.t., I set off  $35^{\circ}31'N.$  on the lat. arc;  $4^{\circ}54'N.$  on the decl. arc; and determine a meridian with the solar, which I find agrees with the true meridian and with the solar meridian of yesterday afternoon.

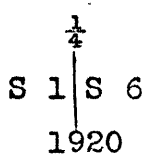
As all of the solar observations during the usual hours of solar work come within  $1'30''$  of the true meridian, I conclude that the adjustments of the solar are satisfactory.

Completion of the Survey  
of the West Boundary of T.24 N.,R.12 W.

Chains The West Boundary of T.24 N.,R.12 W.,was surveyed to an intersection with the South Boundary of the Hualpai Indian Reservation in October and November,1910,by Jesse B. Wright,U.S.Surveyor,and no subsequent re-tracement or resurvey of this line is of record.

From the closing cor. of Ts.24 N.,Rs.12 and 13 W.,on the West Boundary of T. 24 N.,R. 12 W.,at the intersection of said Bdy.with the South Boundary of the Hualpai Indian Reservation,37.60 chs.North of the cor.of secs. 1,6,7 and 12, said closing cor. being an iron post, 3 ins.diam.,12 ins.above ground,properly marked,witnessed by a mound of stone,

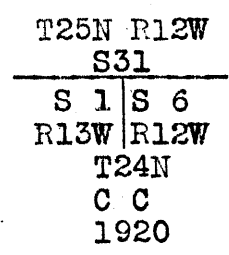
North bet. secs. 1 and 6  
Over rolling land, through scattering timber and under growth.  
2.40 (40.00 chs. North of the cor.of secs.1,6,7 and 12) Set an iron post, 3 ft. long, 1 in. diam., 26 ins.in the ground, for 1/4 sec.cor.,marked on brass cap



From which  
A cedar, 6 ins. diam.,brs. N.51 3/4°E.,  
103 lks. dist.,marked 1/4 S 6 B T.  
A cedar, 6 ins. diam.,brs.S.65 1/2°W.,  
172 lks.dist.,marked 1/4 S 1 BT.

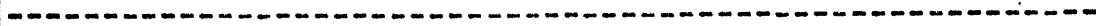
11.20 Shallow draw, course SE.  
13.80 Asc..SW. slope.  
21.30 Spur, slopes SE.  
34.80 (72.40 chs. North of the cor.of secs.1,6,7 and 12) Intersect the 6th Standard Parallel North, 21.79 chs. East of the SW. cor. of T.25 N.,R.12 W.,described in Book "B".

At the point of intersection,  
Set an iron post, 3 ft. long, 3 ins.diam.,6 ins.in the ground, in a mound of stone, for closing cor. of Ts. 24 N.,Rs. 12 and 13 W., marked on brass cap



From which  
A cedar, 12 ins. diam.,brs. S.26 1/4°E.,  
62 lks. dist.,marked T24N R12W S6 CC BT.  
A cedar, 12 ins.diam.,brs.S.37 3/4°W.,  
154 lks.dist.,marked T24N R13W S 1 CC BT.

Land,rolling.  
Soil, rocky, 3rd and 4th rates.  
Timber, cedar.  
Undergrowth, sagebrush and scrub oak.



Boundaries of that Part of T. 24 N., R. 12 W.  
Surveyed under this Group.

Latitudes, departures and closing errors.

Line designated	True bearing	Dist.	Latitudes : Departures			
			N	S	E	W
South Boundary (S.Bdy. Hualpai Ind. Res.)	West	478.58				478.58
West Boundary	North	34.80	34.80			
North Boundary (6th Std. Par. N.)	East	478.95			478.95	
East Boundary	South	35.48		35.48		
Convergency					.04	
Totals			34.80	35.48	478.99	478.58
Error in lat.				.68		
Error in dep.					.41	

Survey of Completion

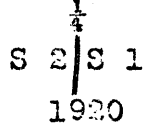
of Subdivision of T. 24 N., R. 12 W.

BOOK 3549

Chains T.24 N.,R.12 W.,was subdivided south of the Hualpai Indian Reservation in January 1912, by Jesse B. Wright and William H. Elliott,U.S.Surveyors, Who established closing subdivisional cors.on the South Boundary of the Reservation, which are the cors.hereinafter described. The boundary of the Hualpai Indian Reservation was surveyed in August and September 1900 by Albert T.Colton, U.S.Deputy Surveyor,no mile of which through T.24 N., R.12 W.has been retraced or resurveyed.

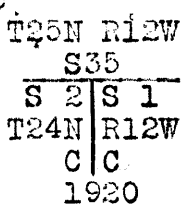
From the closing cor..of secs.1 and 2,on the S. bdy. of the Hualpai Indian Reservation,36.78 chs.N.0°1'W.of the cor.of secs.1,2,11 and 12,said closing cor.being an iron post,2 ins.diam.,12 ins. above ground, properly marked,witnessed by pits and a mound of earth, N.0°1'W.,on a true line,bet.secs.1 and 2, over rolling land,through scattering timber and undergrowth.

3.22 (40.00 chs.,N.0°1'W.of the cor.of sec.1,2,11 and 12)  
Set an iron post, 3 ft.long,1 in.diam.,26 ins.in the ground, for  $\frac{1}{4}$  sec.cor.,marked on brass cap



From which  
A cedar, 10 ins.diam.,brs. S.76 $\frac{1}{2}$ °E.,  
127 lks.dist.marked  $\frac{1}{4}$ S1 BT.  
A cedar, 6 ins. diam.,brs. N.51 $\frac{1}{2}$ °W.,  
71 lks.dist.,marked  $\frac{1}{4}$ S2 BT.

35.48 (72.26 chs.N.0°1'W.of the cor.of secs.1,2,11 and 12)  
Intersect the 6th Standard Parallel North 18.25 chs.W. of the standard cor.of secs.35 and 36,described in Book "B"  
Set an iron post, 3 ft. long, 2 ins.diam.,26 ins.in the ground, for closing cor.of secs. 1 and 2, marked on brass cap



From which  
A twin cedar, 10 ins.diam.,brs. S.43 $\frac{1}{4}$ °E.,  
324 lks. dist.,marked T24N R12W S1 CC BT.  
A cedar, 12 ins. diam.,brs. S.32 $\frac{1}{2}$ °W.,  
518 lks.dist.,marked T24N R12W S2 CC BT.

Land, rolling.  
Soil, gravelly, 2nd and 3rd rates.  
Timber, cedar.  
Undergrowth, Spanish bayonet.  
Fair grass.

From the closing cor. of secs. 2 and 3, on the S.bdy.of the Hualpai Indian Reservation, 36.85 chs.N.0°1'W.of the cor. of secs. 2,3,10 and 11, said closing cor.being an iron post; 2 ins.diam.,12 ins.above ground, properly marked, witnessed by pits and a mound of earth, N.0°1'W.,on a true line,bet.secs.2 and 3,over rolling land, through scattering undergrowth.

3.15 (40.00 chs.,N.0°1'W.of the cor.of secs.2,3,10 and 11)  
Set an iron post, 3 ft. long, 1 in.diam.,26 ins.in the ground, for  $\frac{1}{4}$  sec.cor.,marked on brass cap

Survey of Completion

of Subdivision of T. 24 N., R. 12 W.

Chains.

$$\begin{array}{c} \frac{1}{4} \\ \text{S } 3 \text{ | S } 2 \\ \hline 1920 \end{array}$$

35.46 Dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. dist.  
 (72.31 chs. N. 0° 1' W. of the cor. of secs. 2, 3, 10 and 11)  
 Intersect the 6th Standard Parallel North, 18.44 chs.  
 W. of the standard cor. of secs. 34 and 35, described  
 in Book "B".

At the point of intersection, set an iron post, 3 ft.  
 long, 2 ins. diam., 26 ins. in the ground, for closing  
 cor. of secs. 2 and 3, marked on brass cap

$$\begin{array}{c} \text{T25N R12W} \\ \text{S34} \\ \hline \text{S } 3 \text{ | S } 2 \\ \text{T24N R12W} \\ \text{C | C} \\ 1920 \end{array}$$

Dig pits, 18 x 18 x 12 ins., E., S. and W. of post, 3 ft. dist.  
 Land, rolling.  
 Soil, gravelly, 2nd and 3rd rates.  
 No timber.  
 Undergrowth, Spanish bayonet.  
 Fair grass.

From the closing cor. of secs. 3 and 4, on the S. bdy. of  
 the Haulpai Indian Reservation, 37.06 chs. N. 0° 1' W. of  
 the cor. of secs. 3, 4, 9 and 10, said closing cor. being  
 an iron post, 2 ins. diam., 12 ins. above ground, properly  
 marked, witnessed by pits and a mound of earth, N. 0° 2' W.  
 on a true line, bet. secs. 3 and 4, over rolling land.

0.06 Three strand barb wire fence, brs. E. and W.  
 2.94 (40.00 chs. N. 0° 2' W. of the cor. of secs. 3, 4, 9 and 10)  
 Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in  
 the ground, for  $\frac{1}{4}$  sec. cor., marked on brass cap

$$\begin{array}{c} \frac{1}{4} \\ \text{S } 4 \text{ | S } 3 \\ \hline 1920 \end{array}$$

35.33 Dig pits, 18x18x12 ins., N. and S. of post, 3 ft. dist.  
 (72.39 chs. N. 0° 2' W. of the cor. of secs. 3, 4, 9 and 10)  
 Intersect the 6th Standard Parallel North, 18.53 chs.  
 West of the standard cor. of secs. 33 and 34, de-  
 scribed in Book "B".

At the point of intersection, set an iron post, 3 ft.  
 long, 2 ins. diam., 26 ins. in the ground, for closing  
 cor. of secs. 3 and 4, marked on brass cap

$$\begin{array}{c} \text{T25N R12W} \\ \text{S33} \\ \hline \text{S } 4 \text{ | S } 3 \\ \text{T24N R12W} \\ \text{C | C} \\ 1920 \end{array}$$

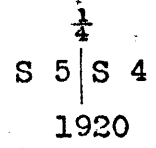
Dig pits, 18 x 18 x 12 ins., E., S. and W. of post, 3 ft.  
 dist.  
 Land, rolling.  
 Soil, gravelly, 2nd and 3rd rates.  
 No timber or undergrowth.

72.37

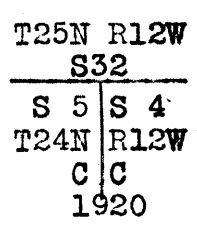


Survey of Completion  
of Subdivision of T. 24 N., R. 12 W.

Chains From the closing cor. of secs. 4 and 5, on the South Boundary of the Hualpai Indian Reservation, 37.17 chs. N.0°3'W. of the cor. of secs. 4, 5, 8 and 9, said closing cor. being an iron post, 2 ins. diam., 12 ins. above ground, properly marked, witnessed by pits and mound of earth,  
N.0°3'W. on a true line, bet. secs. 4 and 5,  
Over open, rolling land.  
0.06 Three strand barb wire fence, brs. E. and W.  
2.83 (40.00 chs. N.0°3'W of the cor. of secs. 4, 5, 8 and 9)  
Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap



35.10 Dig pits, 18 x 18 x 12 ins., N. and S. of post, 3 ft. dist.  
(72.27 chs. N.0°3'W. of the cor. of secs. 4, 5, 8 and 9)  
Intersect the 6th Standard Parallel North, 18.56 chs. West of the standard cor. of secs. 32 and 33, described in Book "B".  
At the point of intersection, set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for closing cor. of secs. 4 and 5, marked on brass cap

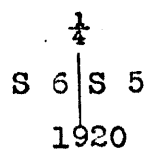


Dig pits, 18 x 18 x 12 ins., E., S. and W. of post, 3 ft. dist.  
Land, rolling and slightly rolling.  
Soil, gravelly, 2nd and 3rd rates.  
No timber or undergrowth.  
Fair grass.

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From the closing cor. of secs. 5 and 6, on the S. Bdy. of the Hualpai Indian Reservation, 37.35 chs. N.0°3'W. of the cor. of secs. 5, 6, 7 and 8, said closing cor. being an iron post, 2 ins. diam., 12 ins. above ground, properly marked, witnessed by

- A cedar, 8 ins. diam., brs. S. 56 1/2° E., 144 lks. dist., marked T24N R12W S 5 CC BT.
- A cedar, 10 ins. diam., brs. S. 14 1/2° W., 224 lks. dist., marked T24N R12W S 6 CC BT.

N.0°3'W. on a true line, bet. secs. 5 and 6, over rolling land, through scattering undergrowth.  
0.08 Three strand barb wire fence, brs. E. and W.  
2.65 (40.00 chs. N.0°3'W of the cor. of secs. 5, 6, 7 and 8)  
Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, for 1/4 sec. cor., marked on brass cap



## Survey of Completion

8

of Subdivision of T. 24 N., R. 12 W.?

Chains	From which
	A cedar, 14 ins. diam., brs. S. $72\frac{3}{4}^{\circ}$ E., 126 lks. dist., marked $\frac{1}{4}$ S5 BT.
	A cedar, 16 ins. diam., brs. N. $83^{\circ}$ W., 138 lks. dist., marked $\frac{1}{4}$ S6 BT.
5.50	Road, brs. NE. to Mud Tank and SW. to Hackberry.
24.00	Road, brs. SE. to Hackberry and NW. to
34.98	(72.33 chs. N. $0^{\circ}3'$ W. of the cor. of secs. 5, 6, 7 and 8) Intersect the 6th Standard Parallel North, 18.71 chs. West of the standard cor. of secs. 31 and 32, described in Book "B".
	A the point of intersection, set an iron post, 3 ft. long, 2 ins. diam., 26 ins. in the ground, for closing cor. of secs. 5 and 6, marked on brass cap

T25N R12W	
S31	
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S 6	S 5
T24N	R12W
C	C
1920	

From which

    A cedar, 8 ins. diam., brs. S.  $50\frac{3}{4}^{\circ}$ E.,  
        133 lks. dist., marked T24N R12W S5 CC BT.

    A cedar, 14 ins. diam.; brs. S.  $51\frac{1}{2}^{\circ}$ W.,  
        136 lks. dist., marked T24N R12W S6 CC BT.

Land, rolling.  
Soil, gravelly, 2nd and 3rd rates.  
Timber, cedar.  
Undergrowth, cactus.  
Fair grass.

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The continued satisfactory adjustment of the solar apparatus during the survey of the completion of the subdivision of this Tp. is indicated from field tests as described in Book "B".

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## GENERAL DESCRIPTION.

The portion of T. 24 N., R. 12 W., surveyed at this time is rolling gravelly land, suitable for grazing, but unwatered with cedar timber in patches, and scattering cactus undergrowth. No water has been developed in this part of the Tp. There are no settlers, nor are there any indications of mineral.



CERTIFICATE OF UNITED STATES SURVEYOR.

I, James C. O'Brien, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from the U. S. Surveyor General, for Group 109, Arizona, bearing date of the 26th day of February, 1920, I have well, faithfully, and truly in my own proper person, and in strict conformity with said instructions, the Manual of Surveying Instructions, and the laws of the United States, surveyed all those parts or portions of the West boundary, and Subdivision lines of

TOWNSHIP 24 NORTH, RANGE 12 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona, and by diagram on page 1 hereof 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 U. S. Surveyor General, for Group 109, Arizona, and in the specific manner described in the field notes, and that the foregoing are the original field notes of such survey.

Place Phoenix, Arizona
Date May 14, 1923

James C. O'Brien, (deceased) U. S. Surveyor.

By Asst. Supervisor of Surveys. APPROVAL.

OFFICE OF THE UNITED STATES SURVEYOR GENERAL,

Phoenix, Arizona, MAY 24 1923, 1923.

The foregoing field notes of the survey of part of the West boundary, and Part(completion) of the Subdivision lines of

TOWNSHIP 24 NORTH, RANGE 12 WEST,

of the Gila and Salt River Base and Meridian, in the State of Arizona,

executed by James C. O'Brien, U. S. Surveyor,

under his special instructions dated Feby. 26, 1920, for Group 109, Arizona, 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. Surveyor General.

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

U. S. Surveyor General.