

Book "B"

4-679

FIELD NOTES

BOOK 3856

OF THE SURVEY OF

*Part of the Grand Canyon National Park Boundary**formed by**Part of the Subdivision Lines of**Township 30 North, Range 5 East**Of the Gila and Salt River Base & Meridian,**In the State of ARIZONA*

EXECUTED BY

Benjamin J. Kinsey, U.S. Surveyor

In the capacity of U. S. Surveyor, under Special Instructions dated May 11, 1927, issued by the District Cadastral Engineer to govern surveys included in Group No. 145, Arizona, which were approved by the Commissioner of the General Land Office, May 20, 1927, and Assignment Instructions dated Oct. 15, 1927.

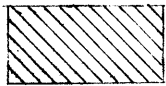
Survey commenced November 10, 1927.

Survey completed November 16, 1927.

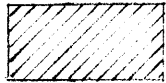
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Book "B"
Group 145 - Arizona.

BOOK 3856

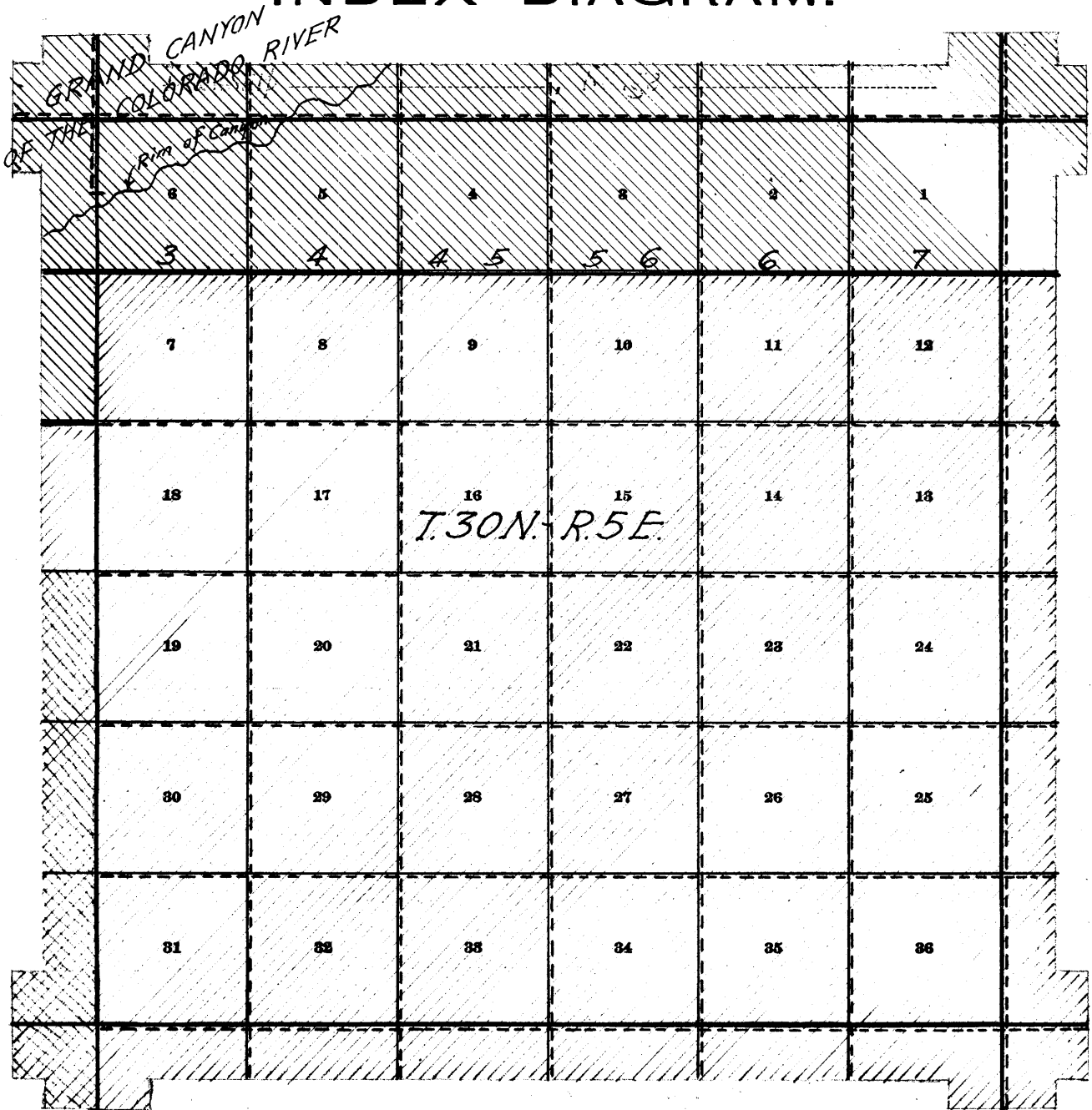


Land within Grand Canyon National Park.



Land within Tusayan National Forest.

INDEX DIAGRAM.



— Lines surveyed under this group.

- - - Unserved.

— Accepted surveyed lines.



Areas surveyed as per accepted plats on file.

Book "B"
 Group 145 Arizona
 Township 30 North, Range 5 East
 DATE DIAGRAM
 1927

6 11-10-27	5 11-11-27	4 11-14-27	3 11-14-27	2 11-15-27	1 11-16-27
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

Surveyed by Benjamin J. Kinsey, U.S. Surveyor on dates shown thereon.

The surveys herein described were executed on dates shown on diagram on page 1 hereof, by Benjamin J. Kinsey, U.S. Surveyor, using Buff transit No. 9940; the instrument has a 4-inch vertical circle, 5 in. horizontal circle and equipped with Smith solar attachment. Unless otherwise specified all azimuth determinations are accomplished with the solar.

PRELIMINARY FIELD TEST
of
Buff Transit No. 9940
by
Benjamin J. Kinsey, U.S. Surveyor.

November, 4, 1927, at station near center of sec. 22, T. 30 N., R. 4 E., G. & S. R. B. and M., Arizona, in latitude $35^{\circ}58\frac{1}{2}'$ N., and approximate longitude $111^{\circ}57'$ W., examine the adjustments of the transit and find no errors; then to test the workings of the solar apparatus proceed as follows:

At 4h. 42m., a.m., l.m.t., observe Polaris at western elongation, making four observations, two each with the telescope in direct and reversed positions and marking the mean point in the line thus determined by a tack set in top of a stake driven firmly in the ground about 5 chs. N.

Azimuth of Polaris at western elongation : $1^{\circ}20'15''$.

Lay off the azimuth of Polaris $1^{\circ}20\frac{1}{2}'$ to the east and mark the meridian thus determined by a tack set in top of a peg driven firmly in the ground about 5 chs. N.

November, 9, 1927, at 9h. 00m., a.m., app.t., set off $35^{\circ}58\frac{1}{2}'$ N., on the latitude arc, $16^{\circ}41'$ S., on the decl. arc and determine a meridian with the solar which is found to agree with the true meridian.

At 12h. 00m., app. noon, with the lat. arc unchanged observe the sun on the meridian; the resultant reading of the decl. arc is $16^{\circ}43\frac{1}{2}'$ S., which agrees with the computed declination of the sun.

At 3h. 00m., p.m., app.t., with the lat. arc unchanged, set off $16^{\circ}45'$ S., on the decl. arc and determine a meridian with the solar which is found to agree with the true meridian.

As all of the observations taken during the usual hours of solar work agree within 1' of the true meridian, conclude that the instrument is in satisfactory condition.

Unless otherwise specified all measurements are made with a Lufkin steel tape, compared with a Lufkin standard and found correct.

The measurements are made on the slope, the vertical angle determined with a clinometer and the slope measurements properly reduced to true horizontal values.

Survey of the Grand Canyon National Park Bdy.,
thru. T.30N., R.5.E.

3

Chains

The original cor. secs. 1, 6, 7 and 12, on W. Bdy. of T.30 N., R.5 E., established by J.F.Hesse, U.S.D.S, in 1904 is a limestone 6 x 10 x 14 ins. above ground, firmly set, and mkd. with one groove on the N. and five grooves on the S. faces, and witnessed by four properly mkd. bearing trees, one each NE, SE, SW and NW of cor.

Thence,

East, on true line, bet. secs. 6 and 7, on Grand Canyon National Park Bdy.

Over rolling land, thru heavy timber and scattering undergrowth.

Over level top of ridge, which brs. N-S.

4.00 Leave ridge, desc. 24 ft. over E. slope.

7.00 Wash, 20 lks. wide, course S.

Asc. 20 ft. over W. slope.

18.00 Over level ridge, top, brs. N-S.

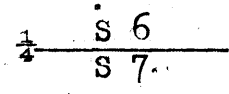
29.00 Leave ridge, desc. 29 ft. over E. slope.

34.00 Wash, 20 lks. wide, course S., in center of draw bottom about 2.00 chs. wide.

Asc. 29 ft. over W. slope.

38.00 Over level ridge top, brs. N-S.

39.03 Set an iron post 3 ft. long, 1 in. in diam., 6 ins. in the ground to bedrock, supported by a md. stone, for the 1/4 sec. cor. secs. 6 and 7, with brass cap mkd.



1927

from which,

a pinion, 8 ins. in diam., brs. N.18 1/2° W., 5 lks. dist., mkd. 1/4 S6 BT

a pinion, 10 ins. in diam., brs. S.38 1/2° E., 13 lks. dist., mkd. 1/4 S7 BT

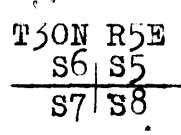
46.00 Leave level top, brs. NW-SE; desc. 58 ft. over NE slope.

55.00 Center of draw, 200 lks. wide, course SE.

55.10 Road, brs. NW-SE.

Asc. 75 ft. over SW slope, to

79.03 Set an iron post 3 ft. long, 2 ins. in diam., 14 ins. in the ground to bedrock, supported by a md. stone, for the cor. secs. 5, 6, 7 and 8, with brass cap mkd.



1927

from which,

a cedar, 8 ins. in diam., brs. N.82° E., 27 lks. dist., mkd. T30N R5E S5 BT

a pinion, 6 ins. in diam., brs. S.24° E., 27 lks. dist., mkd. T30N R5E S8 BT

a cedar, 10 ins. in diam., brs. S.77° W., 50 lks. dist., mkd. T30N R5E S7 BT

a pinion, 6 ins. in diam., brs. N.40 1/2° W., 25 lks. dist., mkd. T30N R5E S6 BT

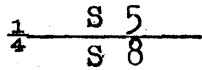
Land, rolling and level.
Soil, rocky 4th. rate.
Timber, cedar, pinion.
Undergrowth, sagebrush and cacti.

Survey of the Grand Canyon National Park Bdy.,
thru. T.30 N., R.5. E.

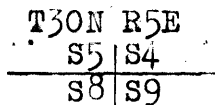
4

Chains

East, on true line, bet. secs. 5 and 8., on Park Bdy.
Over rolling land, thru heavy timber and scattering under-
growth.
Asc. 14 ft. over SW slope.
2.00 Over level top of ridge, bearing N-S.
13.20 Telephone line, from Grand Canyon, Ariz., to Desert View
R.S., brs. NE-SW.
40.00 Set an iron post 3 ft. long, 1 in. in diam., 16 ins. in
the ground to bedrock, supported by a md. stone, for the
1/4 sec. cor. secs. 5 and 8, with brass cap mkd.



1927 from which,
a pinion, 10 ins. in diam., brs. N.29 1/2° E., 22 lks.
dist., mkd. 1/4 S5 BT
a cedar, 10 ins. in diam., brs. S.67° W., 8 lks.
dist., mkd. 1/4 S8 BT
41.00 Leave level ridge, brs. NW-SE; desc. 129 ft. over NE slope.
63.00 Enter shallow draw.
63.70 Road, brs. NW-SE. (To Desert View Ranger Sta.)
64.30 Wash, 15 lks. wide, course SE.
Asc. 69 ft. over SW slope.
70.00 Spur, slopes SW; over level top.
77.50 Leave top, desc. 23 ft. over S 1/4 slope to
80.00 Set an iron post 3 ft. long, 2 ins. in diam., 20 ins. in
the ground for the cor. secs. 4, 5, 8 and 9, with brass
cap mkd.



1927 from which,
a pinion, 4 ins. in diam., brs. N.83 1/2° E., 46 lks.
dist., mkd. BT
a cedar, 14 ins. in diam., brs. S.31 1/2° E., 128 lks.
dist., mkd. T30N R5E S9 BT
a cedar, 14 ins. in diam., brs. S.33° W., 86 lks.
dist., mkd. T30N R5E S8 BT
a cedar, 30 ins. in diam., brs. N.33° W., 93 lks.
dist., mkd. T30N R5E S5 BT

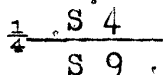
Land, rolling and level.
Soil, rocky 4th. rate.
Timber, cedar, and pinion.
Undergrowth, sage and oakbrush, cacti.

East, on true line, bet. secs. 4 and 9, on Park Bdy.
Over rolling land, thru heavy timber and scattering under-
growth.
Desc. 39 ft. over SE slope.
5.50 Enter draw bottom.
6.10 Road, from Grand Canyon, Ariz.- Desert View, brs. N-S,
6.50 Wash, 20 lks. wide, course S.
Asc. 81 ft. over W. slope.
16.90 Spur, slopes S. Over level top of same.
20.00 Leave top, desc. gradual E. slope.
29.00 Foot of desc., over level draw bottom, to
30.00 Wash, 30 lks. wide, course SW.
32.00 Leave draw bottom; asc. gradual SW slope to

Survey of the Grand Canyon National Park Bdy.,
thru T.30 N., R.5 E.

Chains

40.00 Set an iron post 3 ft. long, 1 in. in diam., 26 ins. in the ground for the 1/4 sec. cor. secs. 4 and 9, with brass cap mkd.



1927 from which,
a pinion, 8 ins. in diam., brs. N.77°E., 16 lks. dist., mkd. 1/4 S4 BT
a cedar, 10 ins. in diam., brs. S.31°W., 8 lks. dist., mkd. 1/4 S9 BT

Asc. 30 ft. over W. slope.

46.00 Ridge, brs. N-S.; over level top.

51.50 Leave top, desc. 123 ft. over SE slope.

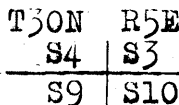
66.70 Enter draw; across level bottom.

67.30 Wire drift fence (Forest Service) brs. N-S.

67.80 Wash, 10 lks. wide, course SW.

68.00 Leave draw, asc. 139 ft. over SW slope to

80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in the ground for the cor. secs. 3, 4, 9 and 10, with brass cap mkd.



1927 from which,
a cedar, 10 ins. in diam., brs. N.60°E., 5 lks. dist., mkd. T30N R5E S3 BT
a pinion, 10 ins. in diam., brs. S.56 1/2°E., 26 lks. dist., mkd. T30N R5E S10 BT
a pinion, 8 ins. in diam., brs. S.26 1/2°W., 17 lks. dist., mkd. T30N R5E S9 BT
a cedar, 8 ins. in diam., brs. N.49 1/2°W., 38 lks. dist., mkd. T30N R5E S4 BT

Land, rolling and level.

Soil, rocky 4th. rate.

Timber, Juniper, pinion and few yellow pine.

Undergrowth, oakbrush, sage and cacti.

East, on true line, bet. secs. 3 and 10, on Park Bdy. Over rolling land, thru heavy timber and undergrowth.

Asc. 6 ft. over W. slope.

.50 Spur, slopes S. Over level top.

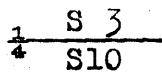
1.50 Leave top, desc. 66 ft. over E. slope.

12.50 Wash, 20 lks. wide, course SE.

Asc. 89 ft. over SW slope.

35.00 Spur, slopes S. Over level top, to

40.00 Set an iron post 3 ft. long, 1 in. in diam., 18 ins. in the ground to bedrock, supported by a md. stone, for the 1/4 sec. cor. secs. 3 and 10, with brass cap mkd..



1927 from which,
a pinion, 8 ins. in diam., brs. N.33°W., 29 lks. dist., mkd. 1/4 S3 BT
a pinion, 8 ins. in diam., brs. S.53°W., 26 lks. dist., mkd. 1/4 S10 BT

Survey of the Grand Canyon National Park Bdy.,
thru. T.30.N., R.5 E.

6

Chains

42.00 Leave top, desc. 104 ft. over E. slope.
47.50 Wash, 30 lks. wide, course S.
Asc. 133 ft. over W. slope.
54.00 Top of spur, slopes S. Over level top.
58.00 Leave top, desc. 149 ft. over E. slope.
67.50 Wash, 30 lks. wide, course SE.
Asc. 147 ft. over SW slope.
75.00 Spur, slopes S. Over level top.
78.00 Leave top, desc. 34 ft. over SE slope to
80.00 Set an iron post 3 ft. long, 2 ins. in diam., 18 ins. in
the ground to bedrock, supported by a md. stone, for the
cor. secs. 2, 3, 10 and 11, with brass cap mkd.

T30N	R5E
S3	S2
S10	S11

1927

from which,
a pinion, 8 ins. in diam., brs. N.41°E., 29 lks.
dist., mkd. T30N R5E S2 BT
a pinion, 8 ins. in diam., brs. S.58½°E., 41 lks.
dist., mkd. T30N R5E S11 BT
a pinion, 8 ins. in diam., brs. S.57°W., 16 lks.
dist., mkd. T30N R5E S10 BT
a pinion, 8 ins. in diam., brs. N.10½°W., 65 lks.
dist., mkd. T30N R5E S3 BT

Land, rolling and level.
Soil, rocky 4th. rate.
Timber, cedar, pinion and yellow pine.

East, on true line, bet. secs. 2 and 11, on Park Bdy.
Over rolling land, thru heavy timber and dense undergrowth.
Desc. 110 ft. over SE slope.
15.90 Wash, 20 lks. wide, course SE.
Asc. 173 ft. over SW slope.
25.00 Spur, slopes S. Over level top.
28.00 Leave top, desc. 52 ft. over E. slope.
29.80 Wash, 20 lks. wide, course S.
Asc. 91 ft. over W. slope.
35.00 Top of ridge, brs. N-S; over level top.
40.00 Set an iron post 3 ft. long, 1 in. in diam., 18 ins. in
the ground to bedrock, supported by a md. stone, for the
¼ sec. cor. secs. 2 and 11, with brass cap mkd.

¼	S 2
S 11	

1927

from which,
a pinion, 16 ins. in diam., brs. N.77½°E., 46 lks.
dist., mkd. ¼ S2 BT
a pinion, 14 ins. in diam., brs. S.17½°W., 53 lks.
dist., mkd. ¼ S11 BT

65.00 Leave level top; desc. 140 ft. over E. slope.
78.15 Wash, 10 lks. wide, course SE.
Asc. 20 ft. over SW slope to
80.00 Set an iron post 3 ft. long, 2 ins. in diam., 4 ins. in
the ground to bedrock, supported by a md. stone, for
the cor. secs. 1, 2, 11 and 12, with brass cap mkd.

Survey of the Grand Canyon National Park Bdy.,
thru T.30 N., R.5 E.

Chains

T30N	R5E
S2	S1
S11	S12

1927 from which,
 a cedar, 10 ins. in diam., brs. N:49°E.; 75 lks.
 dist., mkd. T30N R5E S1 BT
 a pinion, 6 ins. in diam., brs. S:13°E.; 51 lks.
 dist., mkd. T30N R5E S12 BT
 a pinion, 10 ins. in diam., brs. S.56°W.; 57 lks.
 dist., mkd. T30N R5E S11 BT
 a cedar, 10 ins. in diam., brs. N.75°W.; 77 lks.
 dist., mkd. T30N R5E S2 BT

Land, rolling and level.
 Soil, rocky 4th. rate.
 Timber, pinion and cedar.
 Undergrowth, oakbrush, sage and cacti.

East, on true line, bet. secs. 1 and 12, on Park Bdy.
 Over rolling land, thru heavy timber and scattering under-
 growth.

35.00 Leave level top; desc. 30 ft. over NE slope to
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 20 ins. in
 the ground to bedrock, supported by a md. stone, for the
 1/4 sec. cor. secs. 1 and 12, with brass cap mkd.

1/4	S 1
	S 12

1927 from which,
 a pinion, 10 ins. in diam., brs. N.71°E., 4 lks.
 dist., mkd. 1/4 S1 BT
 a cedar, 16 ins. in diam., brs. S.15°E., 11 lks.
 dist., mkd. 1/4 S12 BT

45.00 Desc. 34 ft. over NE slope.
 Leave timber; brs. NW-SE, across open draw.
 51.00 Wash, 10 lks. wide, course SE.
 52.00 Leave draw; asc. 27 ft. over SW slope.
 53.00 Spur, slopes S.
 Desc. gradual NE slope.
 55.00 Wash, 10 lks. wide, course S.
 55.10 Road, from Hull Tanks to Cape Solitude, brs. N-S (in poor
 condition.)
 Asc. gradual SW slope.
 57.81 From which,
 USGS BM 6817 brs. N. 95.76 chs. dist.
 61.00 Spur, slopes S., over level top.
 68.50 Leave top, desc. 30 ft. over SE slope.
 72.21 Wash, 10 lks. wide, course SW.
 Asc. gradual W. slope.
 75.00 Top of spur, slopes S. Over level.
 79.00 Leave top, desc. 7 ft. over SE slope to
 80.00 Set an iron post 3 ft. long, 2 ins in diam., 14 ins. in
 the ground to bedrock, supported by a md. stone, for
 the cor. secs. 1, 6, 7 and 12, T.30 N., R.5 and 6 E.,
 with brass cap mkd.

T30N	
R5E	R6E
S1	S6
S12	S7
1927	

from which,

Survey of the Grand Canyon National Park Bdy.,
thru T.30 N., R.5 E.

Chains

a cedar, 12 ins. in diam., brs. N.47 $\frac{1}{2}$ °E., 45 lks.
dist., mkd. T30N R6E S6 BT
a pinion, 14 ins. in diam., brs. S.73°E., 53 lks.
dist., mkd. T30N R6E S7 BT
a pinion, 18 ins. in diam., brs. S.67°W., 45 lks.
dist., mkd. T30N R5E S12 BT
a pinion, 14 ins. in diam., brs. N.45°W., 32 lks.
dist., mkd. T30N R5E S1 BT

Land, rolling and level.
Soil, rocky 4th. rate.
Timber, pinion and cedar.
Undergrowth, oak and sage brush, cacti.

For the continued satisfactory adjustment of the instrument refer to Book "C" of this Group.

GENERAL DESCRIPTION.

The lands over which this line passes are rolling in character and lies on the Coconino Plateau, with a mean elevation of about 7,000 ft. above sea level.
The drainage is to the South.

The soil, is for the most part a rocky, 3rd. and 4th. rate.

The timber consists of cedar, pinion and scattering yellow pine.

The undergrowth consists of oakbrush, sage and cacti.

No water was found along the entire line. Deer Tanks, which is an earthen stock reservoir, with small pond of poor water brs. Southerly about 1 mile from the $\frac{1}{4}$ sec. cor. secs. 1 and 12., along the old road noted. In sec. 5, about $\frac{3}{4}$ of mile Northerly of the line, and along road to Desert View is Tanner Tank, which has small pond of stock water.

No settlers reside in this locality; the Navajo Indians use this area as a hunting grounds in the fall and winter.

No evidence of mineral was noted.

The lands to the North of the line lie within the Grand Canyon Natl. Park and to the South, the lands are in the Tusayan Natl. Forest.

BOOK 3850

4-680

FIELD ASSISTANTS.

to

Benjamin J. Kinsey, U.S.Surveyor

NAMES.	CAPACITY.
Elliott Pierson	1st Chainman
John Boggs	2nd Chainman
Clair Pierson	Flagman
David McJanett	Axman

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BOOK 3856

CERTIFICATE OF UNITED STATES SURVEYOR.

I, Benjamin J. Kinsey, U. S. Surveyor, hereby certify upon honor that, in pursuance of special instructions received from ~~the District Cadastral Engineer, for Group 145, Arizona~~ bearing date of the 11th day of May, 1927, 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 Subdivision Lines of

Township 30 North, Range 5 East of the Gila and Salt River Base and Meridian, in the State of Arizona, which are represented in 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 District Cadastral Engineer, for Group 145, 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: April 18, 1928.

Benjamin J. Kinsey
U. S. Surveyor.

APPROVAL.

OFFICE OF THE U.S. SUPERVISOR OF SURVEYS GENERAL,

Denver, Colo., April 20, 1929

The foregoing field notes of the survey of

Part of the Subdivision Lines of

Township 30 North, Range 5 East

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

executed by Benjamin J. Kinsey, U.S. Surveyor.

under his special instructions dated May 11, 1927 for Group 145 Arizona, having been critically examined, and the necessary corrections and explanations made, the said field notes, and the surveys they describe, are hereby approved.

Walter Johnson
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.~~