

Book "C"

4-679

BOOK 3857

1

FIELD NOTES

OF THE SURVEY OF

Part of the Grand Canyon National Park Boundary

formed by

Part of the Subdivision Lines of

Township 30 North, Range 6 East

of the Gila and Salt River Base and 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 19*, 1927.

Survey completed *November 21*, 1927.

3857

3857

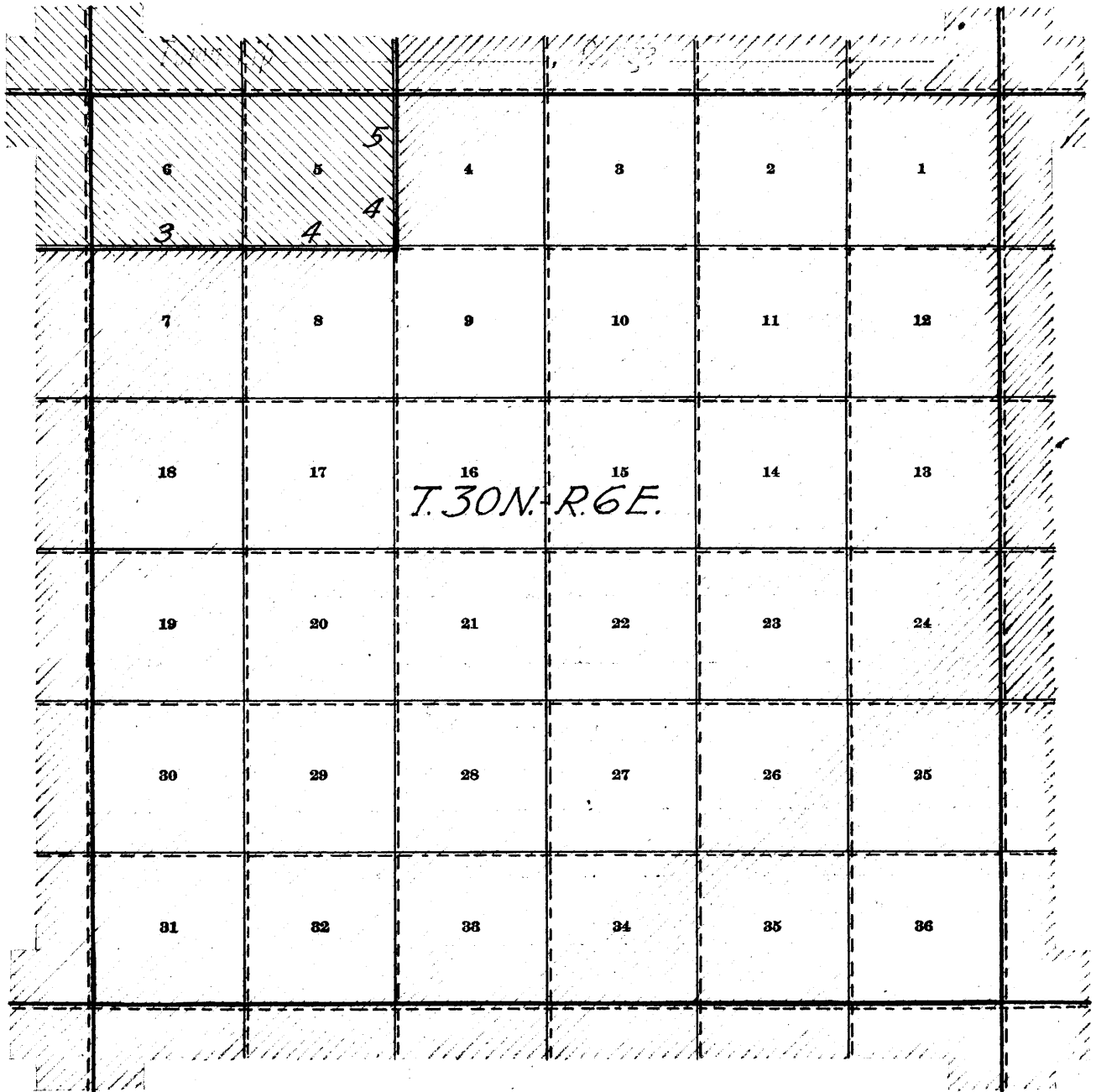
1A

Book "C"

Group 145- Arizona

BOOK 3857

INDEX DIAGRAM.



———— Lines surveyed under this group.

----- Unsurveyed.

//// Land within Grand Canyon National Park.

//// Land within Navajo Indian Reservation.

//// Land within Tusayan National Forest.

Book "C"
 Group 145 Arizona
 Township 30 North, Range 6 East
 DATE DIAGRAM
 1927

6 11 - 19 - 27	5 11 - 19 - 27	4	3	2	1
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 following notes describe surveys executed on dates shown on diagram on page 1 hereof, by Benjamin J. Kinsey, U.S. Surveyor, using Buff Transit No. 9940; the instrument is equipped with Smith solar attachment and otherwise conforms to the standard requirements of the General Land, Office.

Unless otherwise specified all azimuth determinations are accomplished with the solar attachment.

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

November, 18, 1927, on same meridian described on page 2, book "B" of this Gp., examine the adjustments of the instrument and find no errors; then test the workings of the solar apparatus as follows:

At 9h.00m., a.m., app. t., set off $35^{\circ}58\frac{1}{2}'$ N., on the lat. arc, $19^{\circ}4'$ 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 $19^{\circ}6\frac{1}{2}'$ S., which agrees with the computed declination of the sun.

At 2h.00m., p.m., app. t., with lat. arc unchanged, set off $19^{\circ}7\frac{1}{2}'$ 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, 5 chs. in length, compared with a Lufkin Standard and found correct.

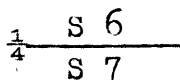
The measurements are made on the slope, the vertical angle determined and the slope measurements properly reduced to true horizontal values.

Survey of the Grand Canyon National Park Bdy.,
thru T, 30 N., R. 6 E.

Chains

From corner, secs. 1, 6, 7 and 12, on W. Bdy. of T. 30 N.,
R. 6 E., described in book "B" of this Group,
East, on true line, bet. secs. 6 and 7, on Park Bdy.
Over rolling land, thru heavy timber and scattering under-
growth.

- 5.00 Desc. 40 ft. over SE slope.
- 10.00 Wash, 20 lks. wide, course S.
- 15.00 Asc. 40 ft. over NW slope.
- 31.20 Rocky, level, ridge, brs. NE-SW; across top.
- 39.03 Leave top; desc. 75 ft. over SE slope.
- 39.03 Wash, 10 lks. wide, course SW.
- 39.03 Asc. gradual NW slope to
- 39.03 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 $\frac{1}{4}$ sec. cor. secs. 6 and 7, with brass cap mkd.

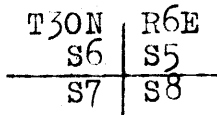


1927 from which,

a pinion, 8 ins. in diam., brs., N. 68° E., 40 lks.
dist., mkd. $\frac{1}{4}$ S6 BT

a pinion, 8 ins. in diam., brs. S. 37° E., 45 lks.
dist., mkd. $\frac{1}{4}$ S7 BT

- 41.00 Asc. gradual NW slope.
- 44.00 Spur, slopes S. Over level top.
- 51.30 Leave top; desc. gradual SE slope.
- 53.00 Wash, 10 lks. wide, course NE.
- 53.00 Asc. gradual NW slope.
- 59.25 Spur, slopes N.
- 59.25 Desc. 23 ft. over NE slope.
- 65.00 Wash, 10 lks. wide, course SE.
- 65.00 Asc. 34 ft. over SW slope.
- 68.50 Spur, slopes SE.
- 68.50 Desc. gradual NE slope.
- 76.50 Wash, 20 lks. wide, course SW.
- 76.50 Asc. gradual NW slope.
- 76.50 Ridge, brs. NE-SW. (about 3 chs. wide)
- 79.03 Desc. gradual SE slope to
- 79.03 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. 5, 6, 7 and 8, with brass cap mkd.



1927 from which,

a pinion, 10 ins. in diam., brs. N. 73 $\frac{1}{2}$ ° E., 70 lks.
dist., mkd. T30N R6E S5 BT

a pinion, 6 ins. in diam., brs. S. 45° E., 62 lks.
dist., mkd. T30N R6E S8 BT

a cedar, 8 ins. in diam., brs. S. 48° W., 22 lks.
dist., mkd. T30N R6E S7 BT

a pinion, 10 ins. in diam., brs. N. 4° W., 15 lks.
dist., mkd. T30N R6E S6 BT

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

Survey of the Grand Canyon National Park Bdy.,
thru T.50 N., R.6 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.
- 7.80 Desc. 66 ft. over SE slope.
Wash, 20 lks. wide, course NE.
Asc. 20 ft. over NW slope.
- 11.00 Toe of spur, slopes NE.
Desc. gradual E. slope, 90 ft.
- 28.00 South end of earth dam (reservoir dry) on line, brs. N-S.
- 29.00 Draw, 50 lks. wide, course SE.
Asc. 29 ft. over gradual SW slope to.
- 40.00 Set an iron post 3 ft. long, 1 in. in diam., 10 ins. in the
ground to bedrock, supported by a md. stone, for the $\frac{1}{4}$
sec. cor. secs. 5 and 8, with brass cap mkd.
- $$\begin{array}{r} \frac{1}{4} \text{ S } 5 \\ \text{S } 8 \end{array}$$
- 1927 from which,
a cedar, 10 ins. in diam., brs. N.79°E., 98 lks.
dist., mkd. $\frac{1}{4}$ S5 BT
a cedar, 18 ins. in diam., brs. S.75 $\frac{1}{2}$ °E., 50 lks.
dist., mkd. $\frac{1}{4}$ S8 BT
- Asc. 23 ft. over SW slope.
- 60.00 Over level top, brs. NW-SE.
- 64.00 Leave level, desc. 25 ft. over S^w slope.
- 70.40 Wash, 10 lks. wide, course SW.
Asc. 23 ft. over NW slope.
- 72.00 Spur, slopes SW. Over level top.
- 78.00 Desc. gradual S^w slope to
- 80.00 Set an iron post 3 ft. long, 2 ins. in diam., 24 ins. in
the ground for the cor. secs. 4, 5, 8 and 9, with brass
cap mkd.
- $$\begin{array}{r} \text{T30N R6E} \\ \text{S5 S4} \\ \hline \text{S8 S9} \end{array}$$
- 1927 from which,
a cedar, 10 ins. in diam., brs. N.42 $\frac{1}{2}$ °E., 40 lks.
dist., mkd. T30N R6E S4 BT
a cedar, 10 ins. in diam., brs. S.12°E., 72 lks.
dist., mkd. T30N R6E S9 BT
a cedar, 8 ins. in diam., brs. S.24°W., 58 lks.
dist., mkd. T30N R6E S8 BT
a cedar, 10 ins. in diam., brs. N.2 $\frac{1}{2}$ °W., 63 lks.
dist., mkd. T30N R6E S5 BT
- Land, rolling and level.
Soil, rocky 4th. rate.
Timber, pinion and cedar.
Undergrowth, oakbrush, sage and cacti.
-
- N.0° 3'W., on true line, on Park Bdy., bet. secs. 4 and 5.
Over rolling land, thru scattering timber and undergrowth.
- 5.00 Asc. gradual SE slope.
Ridge, brs. NE-SW; leave rolling; enter mountainous land.
Desc. 58 ft. over NW slope.
- 14.40 Wash, near head, course NW. Asc. gradual SW slope.
- 16.90 Rocky spur, slopes W.

Survey of the Grand Canyon National Park Bdy.,
thru T.30 N., R.6 E.

Chains

37.40 Desc. 417 ft. over broken NW slope.
Wash, 15 lks. wide, course NE.
Asc. gradual SE slope.

38.00 Toe of spur, slopes E.
Desc. gradual NE slope.

38.80 Wash, 20 lks. wide, course E.
Asc. 20 ft. over S. slope to

40.00 Set an iron post 3 ft., long, 1 in. in diam., 12 ins. in
the ground to bedrock, supported by a md. stone, for
the $\frac{1}{4}$ sec. cor. secs. 4 and 5, with brass cap mkd.

$\frac{1}{4}$

S5 S4

1927 from which,

a pinion, 10 ins. in diam., brs. S.50°E., 50 lks.
dist., mkd. $\frac{1}{4}$ S4 BT

a pinion, 12 ins. in diam., brs. S.7°W., 41 lks.
dist., mkd. $\frac{1}{4}$ S5 BT

57.90 Asc. 410 ft. over SW slope.
Top of rocky spur, slopes E.

63.90 Desc. 29 ft. over NW slope.
Wash, near head, course W.

66.50 Asc. 11 ft. over SW slope.
Spur, slopes W.

74.35 Desc. 302 ft. over NW slope.
Wash, 20 lks. wide, course NE.

80.00 Asc. 90 ft. over SE slope to
Set an iron post 3 ft. long, 2 ins. in diam., 10 ins. in
the ground to bedrock, supported by a md. stone, for the
cor. secs. 4, 5, 32 and 33, Ts. 30 and 31 N., R.6 E., with
brass cap mkd.

T31N R6E
S32 S33
S5 S4
T 30 N

1927 from which,

a pinion, 8 ins. in diam., brs. N.81°E., 41 lks.
dist., mkd. T31N R6E S33 BT

a pinion, 8 ins. in diam., brs. S.65°E., 45 lks.
dist., mkd. T30N R6E S4 BT

a pinion, 4 ins. in diam., brs. S.37°W., 139 lks.
dist., mkd. BT

a pinion, 8 ins. in diam., brs. N.35 $\frac{1}{2}$ °W., 59 lks.
dist., mkd. T31N R6E S32 BT

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

For the continued satisfactory adjustments of the instrument
refer to page, 2, book "D" this Group.

GENERAL DESCRIPTION.

The lands over which the Park Bdy. line passes, lie upon
the East end of the Coconino Plateau, at an elevation of
about 6,800 ft. above sea level, on the higher parts.
Running North bet. secs. 4 and 5, the line leaves the Plate-
eau and crosses breaks along the E. slope of same.

Survey of the Grand Canyon National Park Bdy.,
thru T.30 N., R.6 E.

East, of the line and about one mile distant is the foot of the East slope of the plateau, which brs. Northerly and Southerly, at the west edge of a part of the Painted Desert, located on the West side of the Little Colorado River. This region is inhabited parts of the year, in the fall and winter, by wandering representatives of the Navajo Indian Tribe, who living in Hogans and other shelters, and depending upon small earth and stone reservoirs for their water supply, gained from the rain and snow which falls in the fall and winter, graze livestock over this area.

The timber consists of cedar and pinion.

The undergrowth consists of oakbrush, sage and various forms of cacti life.

There was no signs of water near the lines surveyed.

No evidence of mineral was noted.

The Grand Canyon National Park embraces all of sections 5 and 16, T.30 N., R.6 E., and no other portion of said Tp. is within said Park at the present time. The remainder of said Tp. is within the Tusayan National Forest.

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 6 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

Denver, Colo., April 20, 1929.

The foregoing field notes of the survey of

Part of the Subdivision Lines of

Township 30 North, Range 6 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.

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. Surveyor General.