

Book "E"

4-679

BOOK 3859

FIELD NOTES

OF THE SURVEY OF

Part of the Grand Canyon National Park Boundary

formed by

Part of the Subdivision Lines of

Township 32 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 24*, 1927.

Survey completed *November 24*, 1927.

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Book "E"

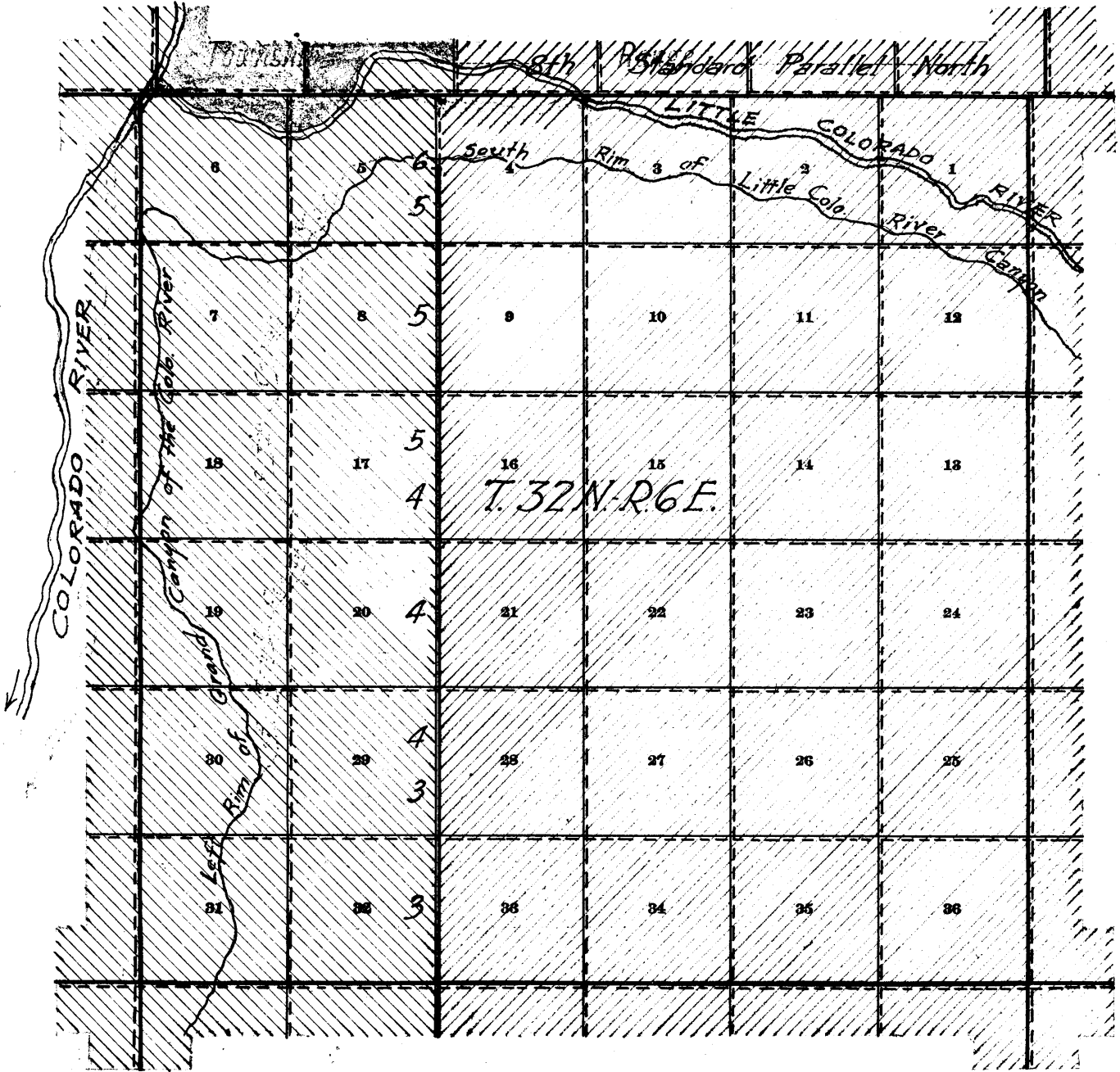
Group 145 - Arizona.

BOOK 9859



Land within Kaibab National Forest, and Grand Canyon National Game Preserve.

INDEX DIAGRAM.



— Lines surveyed under this group.

- - - Unserved.

▨ Land within Grand Canyon National Park.

▩ Land within Navajo Indian Reservation.

Book "E"
 Group 145, Arizona,
 Township 32 North, Range 6 East,
 1927.

6	5	4	3	2	1
7	8	9	10	11	12
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31	32	33	34	35	36

11-24-27 11-24-27 11-24-27 11-24-27 11-24-27 11-24-27

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 is equipped with Smith solar attachment and otherwise conforms to standard requirements of the General Land Office.

Preliminary and Final Test of Instrument.

November 24, 1927, at the cor. of secs. 4, 5, 32 and 33, Ts. 31 and 32 N., R. 6 E., G. & S. R. B. & M., Arizona, Lat. $36^{\circ} 6\frac{1}{2}'$ N.; Long. $111^{\circ} 46'$ W.:

at 3 h. 23 m., a. m., l. m. t., observe Polaris at western elongation, making four observations, two each with the telescope in direct and reversed positions, and mark 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: $1^{\circ} 20' 14''$

At 7 h. 00 m., a. m., lay off the azimuth $1^{\circ} 20'$ to the east and project the true meridian thus determined North, testing the workings of the solar apparatus during the day as follows:

At the cor. of secs. 28, 29, 32 and 33:

at 9 h. 00 m., a. m., app. t., set off $36^{\circ} 7\frac{1}{2}'$ N., on the lat. arc, $20^{\circ} 24\frac{1}{2}'$ S., on the decl. arc and determine a meridian with the solar which agrees with the true meridian.

At the cor. of secs. 16, 17, 20 and 21:

at 12 h. 00 m., app. noon, set off $36^{\circ} 9'$ N., on lat. arc, and observe the sun on the true meridian; the resulting reading of the decl. arc is $20^{\circ} 27'$ S., which agrees with the computed decl. of the sun.

At the $\frac{1}{4}$ sec. cor. of secs. 8 and 9:

at 3 h. 00 m., p. m., app. t., set off $36^{\circ} 10\frac{1}{2}'$ N., on the lat. arc, $20^{\circ} 28'$ S., on the decl. arc and determine a meridian with the solar which agrees 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 adjustments of the instrument have been maintained during the surveys described in the following notes.

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 angles determined and the slope measurements properly reduced to true horizontal distances.

BOOK 200

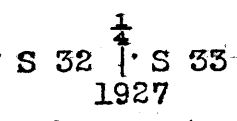
Survey of Part of the Subdivision Lines of T. 32 N., R. 6 E., forming part of the Grand Canyon National Park Boundary.

Chains The following notes describe the survey of the south 5 1/2 miles of the fourth meridional sec. line of T. 32 N., R. 6 E., which forms a part of the bdy. of the Grand Canyon National Park.

From the cor. of secs. 4, 5, 32 and 33, on S. bdy. of T. 32 N., R. 6 E., described in book "D" of this Group. N. 0° 3' W., on true line, bet. secs. 32 and 33 on Park Bdy.

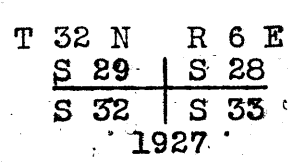
Over rolling land, thru scattering undergrowth. Asc. slightly over SE. slope.

- 0.50 Rocky spur, slopes NE. Desc. 38 ft. over NW. slope.
2.00 Old road, brs. E. and W.
4.00 Wash, 10 lks. wide, course NE. Asc. 72 ft. over SE. slope
10.70 Old road, brs. SE. and SW.
14.00 Spur, slopes E. Desc. 67 ft. over NE. slope.
20.00 Wash, 20 lks. wide, course SE. Asc. 10. ft. over SW. slope.
22.30 Point of spur, slopes W. Desc. slightly over NW. slope.
23.10 Same wash, course SW. Asc. 20 ft. over SE. slope.
26.00 Point of spur, slopes E. Desc. 5 ft. over NE. slope.
28.30 Bend in same wash, course SE. from NE. Asc. 20 ft. over SE. slope.
31.00 Point of spur, slopes E. Desc. 8 ft. over NE. slope.
35.50 Same wash, course SE. Asc. 55 ft. over SW. slope to
40.00 Set an iron post, 3 ft. long, 1 in. in diam., 4 ins. in the ground to bed rock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for 1/4 sec. cor. of secs. 32 and 33, with brass cap marked.



Asc. 70 ft. over SW. slope.

- 65.00 Top of low ridge, bears E. & W., sloping E. Descend 30 ft. along top of spur, sloping N.
80.00 Set an iron post, 3 ft. long, 2 ins. in diam., 6 ins. in the ground to bedrock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for cor. of secs. 28, 29, 32 and 33, with brass cap mkd.



Land, rolling.
Soil, rocky, 4th rate.
Timber, none.
Undergrowth, sagebrush and cacti.

N. 0° 3' W., on true line, bet. secs. 28 and 29, on Park Bdy. Over rolling land, thru scattering undergrowth. Descend along top of spur, sloping N.

- 8.00 Leave top of spur sloping NE. from S. Descend gradually over W. slope to
20.00 Desc. 40 ft. over NW. slope.
31.00 Shallow draw, course NE. Thence over nearly level land.
34.40 Old road, brs. NE. and SW.
39.00 Leave nearly level and enter rolling land. Ascend slightly over SE. slope to

Survey of Part of the Subdivision Lines of T. 32 N., R. 6 E.,
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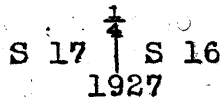
Chains	
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for the $\frac{1}{4}$ sec. cor. of secs. 28 and 29, with brass cap mkd.
	$\begin{array}{c} \frac{1}{4} \\ \text{S 29} \quad \quad \text{S 28} \\ 1927 \end{array}$
	Asc. 42 ft. over SE. slope.
65.00	Spur, slopes E. Desc. 73 ft. over N. slope to
80.00	Set a limestone, (no. 2 in. post available) 8 x 8 x 22 ins., 14 ins. in the ground, for cor. of secs. 20, 21, 28 and 29, mkd. with two grooves on S. face and four grooves on N. face.
	Raise a md. of stone 3 ft. base and $1\frac{1}{2}$ ft. high W. of cor.
	Land, rolling and nearly level.
	Soil, rocky, 4th rate.
	Timber, none.
	Undergrowth, sagebrush and cacti.

	N. $0^{\circ} 3'$ W., on true line, bet. secs. 20 and 21, on Park Bdy.
	Over rolling land, thru scattering undergrowth. Desc. slightly over N. slope.
0.20	Wash, 10 lks. wide, course E. Asc. 103 ft. over S. slope to
10.00	Rim of mesa, brs. E. and W. Thence over level land on mesa.
10.10	Old road, brs. E. and W.
40.00	Set an iron post, 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for $\frac{1}{4}$ sec. cor. of secs. 20 and 21, with brass cap mkd.
	$\begin{array}{c} \frac{1}{4} \\ \text{S 20} \quad \quad \text{S 21} \\ 1927 \end{array}$
	Continue over level land on mesa.
74.60	Shallow draw, 100 lks. wide, course SE. Enter gently rolling land. Asc. 23 ft. over SW. slope to
80.00	Set a limestone (no 2 in. post available) 8 x 12 x 22 ins., 12 ins. in the ground for cor. of secs. 16, 17, 20 and 21, mkd. three grooves on each of N. and S. faces.
	Raise a md. of stone 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
	Land, rolling and level.
	Soil, rocky, 4th rate.
	Timber, none.
	Undergrowth, sage brush and cacti.

	N. $0^{\circ} 3'$ W., on true line, bet. secs. 16 and 17, on Park Bdy.
	Over nearly level land, thru scattering undergrowth, on mesa.
16.00	Rim of mesa brs. NE. and SW. Desc. 36 ft. over NW. slope
20.20	Wash, 20 lks. wide, course NE. Asc. 33 ft. over SE. slope to

Survey of Part of the Subdivision Lines of T. 32 N., R. 6 E., forming part of the Grand Canyon National Park Boundary.

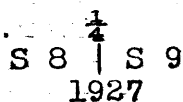
Chains
 27.50 Rim of mesa brs. NE. and SW. Thence over nearly level land on mesa.
 40.00 Set an iron post 3 ft. long, 1 in. in diam., 12 ins. in the ground to bedrock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for $\frac{1}{4}$ sec. cor. of secs. 16 and 17, with brass cap mkd.



Continue over nearly level land on mesa.
 80.00 Set a limestone (no 2 in. post available) 4 x 8 x 22 ins., 14 ins. in the ground, for cor. of secs. 8, 9, 16 and 17, mkd. with four grooves on S. face and two grooves on N. face.
 Raise a md. of stone 3 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Land, rolling and nearly level.
 Soil, rocky, 4th rate.
 Timber, none.
 Undergrowth, sagebrush and cacti.

N. 0° 3' W., on true line, bet. secs. 8 and 9, on Park Bdy.

Over nearly level land on mesa, thru scattering undergrowth.
 22.50 Shallow draw, course NE.
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 26 ins. in the ground for $\frac{1}{4}$ sec. cor. of secs. 8 and 9, with brass cap mkd.



Raise a md. of stone, 3 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Continue over nearly level land on mesa.
 70.00 Rim of mesa brs. NE. & SW. Leave mesa. Enter mountainous land. Desc. 92 ft. over NW. slope to
 80.00 Set a limestone (no 2 in. post available) 8 x 10 x 24 ins., 12 ins. in the ground, for cor. of secs. 4, 5, 8 and 9, mkd. with five grooves on S. face and one groove on N. face.
 Raise a md. of stone 3 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor. Land, nearly level and mountainous.
 Soil, rocky, 4th rate.
 Timber, none.
 Undergrowth, sagebrush and cacti.

N. 0° 3' W., on true line, bet. secs. 4 and 5, (S. 1-2 mile) on Park Bdy.

Over mountainous land, thru scattering undergrowth. Desc. 15 ft. over NW. slope.
 3.20 Wash, 40 lks. wide, course NE. Asc. 116 ft. over SE. slope to
 11.80 Rim of mesa brs. NE. & SW. Thence over level land on mesa:
 40.00 Set an iron post, 3 ft. long, 1 in. in diam., 8 ins. in the ground to bedrock, deposit a stone mkd. with a cross (X) at base of post, supported by a md. of stone, for $\frac{1}{4}$ sec. cor. of secs. 4 and 5, with brass cap mkd.

Survey of Part of the Subdivision Lines of T. 32 N., R. 6 E.,
forming part of the Grand Canyon National Park Boundary.

Chains

S 5 $\frac{1}{2}$ S 4
1927

- Raise a md. of stone 3 ft. base, $1\frac{1}{2}$ ft. high, W. of cor.
Thence
N. $0^{\circ} 3'$ W., on blank line bet. secs. 4 and 5. (Part of
N. 1-2).
- 3.80 Over level land on mesa, thru scattering undergrowth.
South rim of the Canyon of the Little Colorado River,
brs. easterly and westerly. Discontinue survey of
Park Bdy. at this point.
- Raise a md. of stone 5 ft. base and 4 ft. high, with
tall pole in center, well flagged.
- From which,
Venus Temple rock, brs. S. $54^{\circ} 41'$ W., about 8 miles
dist.
- N. 75° W., to junction of the Little Colorado River
with the Colorado River in the Grand Canyon,
about 2 miles dist.
- S. $4^{\circ} 46'$ E., to highest peak on San Francisco Mts.
S. $19^{\circ} 23'$ W., to N. end of Desert View Point.
- The descent at this point, into the Little Colorado River
Canyon is nearly sheer, for about 2500 ft. Impossible
to descend within reasonable distance.
- From this point the Park Bdy. extends N. $0^{\circ} 3'$ W., to
point of intersection with 8th Std. Par. N., unsur-
veyed, thence East to point for standard corner of
secs. 32 and 33, thence N. $0^{\circ} 3'$ W., on sec. line (un-
surveyed) between secs. 32 and 33, T. 33 N., R. 6 E.,
to intersection with the north or right bank of the
Little Colorado River, thence westerly along said
river bank to the east or left bank of the Colorado
River, thence northerly along said east bank of the
Colorado River.

GENERAL DESCRIPTION.

- The lands of T. 32 N., R. 6 E., over which the Park Bdy.
passes lie upon part of the Painted Desert, between
the Little Colorado and Colorado Rivers. The soil, is
rocky, sandy, 4th rate, about 1 ft. to bedrock.
- The timber which is very thinly scattered lies nearly all
to the west of the line about $\frac{1}{2}$ mile dist., consists
of pinion and cedar.
- The plateau is covered by a thick growth of sagebrush
and forms of cacti life.
- No water was located near this line, and no knowledge is
available of any living water in this region.
- There is no way to get into the river bottom within
miles of the end of the point where the Park Boundary
intersects the S. rim of the Little Colorado River.
- No evidence of mineral was found.
- No settlers except wandering Navajo Indians are in this
locality. A poor road, leading to Cape Solitude,
which is west of the end of the line about $1\frac{1}{2}$ miles,
crosses and recrosses the survey.
- Animal life in this barren region is restricted to coy-
otes and jackrabbits; reptilian life is represented
by the rattlesnake, lizards and toads. The land to
the west of the line is all within the Grand Canyon
Natl. Park, while the Navajo Indian Reservation is
on the East.
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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 32 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 GENERAL,

Denver, Colo., April 20, 1929.

The foregoing field notes of the survey of

Part of the Subdivision Lines of

Township 32 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.