

4-679
(April 1933)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BOOK 4365

FIELD NOTES

OF THE SURVEY OF

Part of the Subdivision of Township 6 South, Range 21 West, and

Part of the Subdivision of Township 4 South, Range 23 West,

and the DEPENDENT RESURVEY of

Part of the Subdivision of Township 4 South, Range 23 West,

Part of the Subdivision of Township 5 South, Range 21 West,

First Standard Parallel South, along part of south boundary of

Township 5 South, Range 21 West, and

Part of south boundary of Township 2 South, Range 23 West

Survey of T. 5 S., R. 21 W.

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

Dupree R. Averill, Cadastral Engineer

and

G. Marvin Litz, Cadastral Engineer

Under special instructions dated November 1, 1945, which provided

for the surveys included under Group No. 244, bearing the approval of the

Commissioner of the General Land Office under date of December 6, 1945

and assignment instructions dated October 4, 1946

Survey commenced October 25, 1946

Survey completed January 7, 1947

INDEX DIAGRAM.

Township _____, *Range* _____

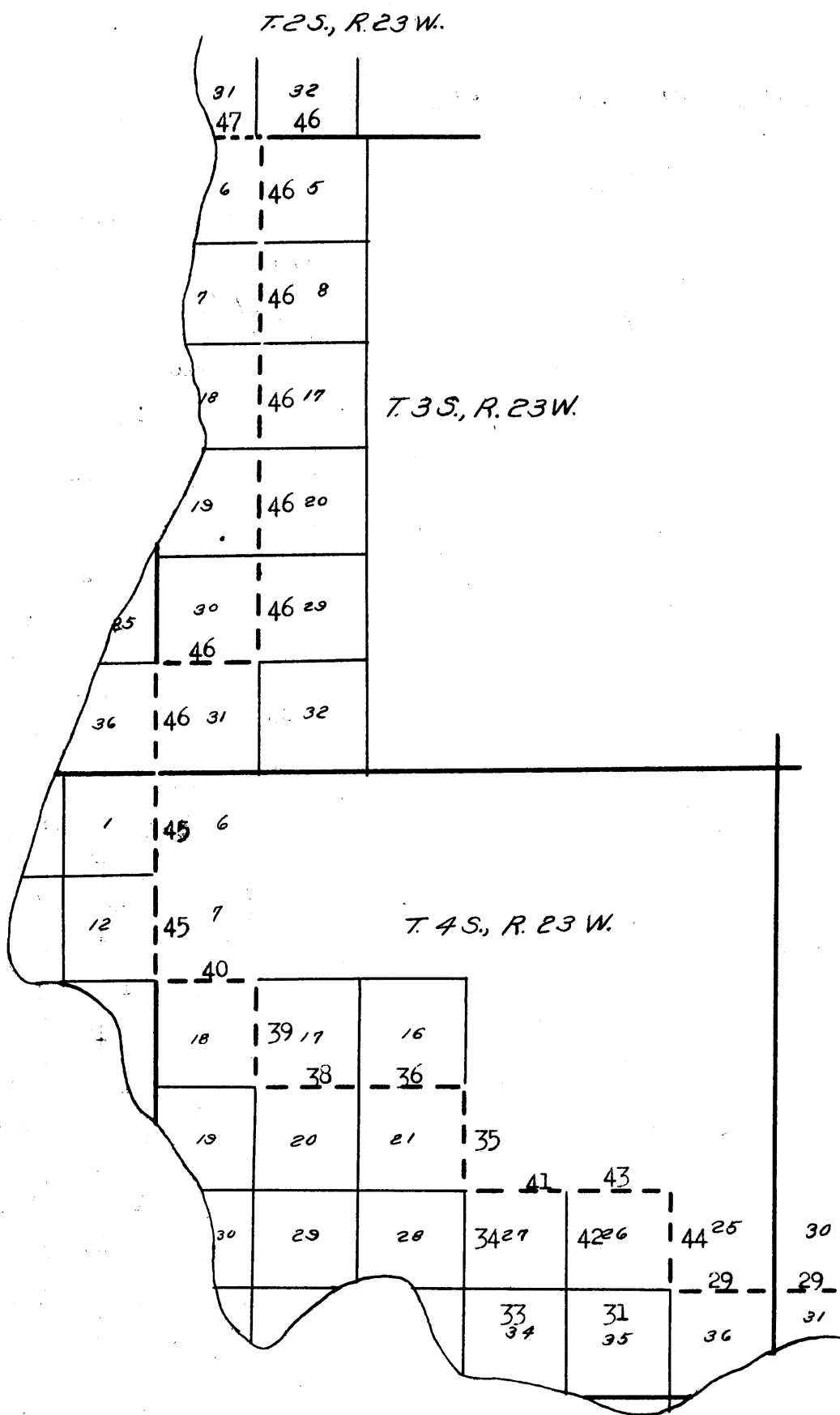
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INDEX DIAGRAM

Imperial National Wildlife Refuge
Boundary.

ARIZONA.

BOOK 4365



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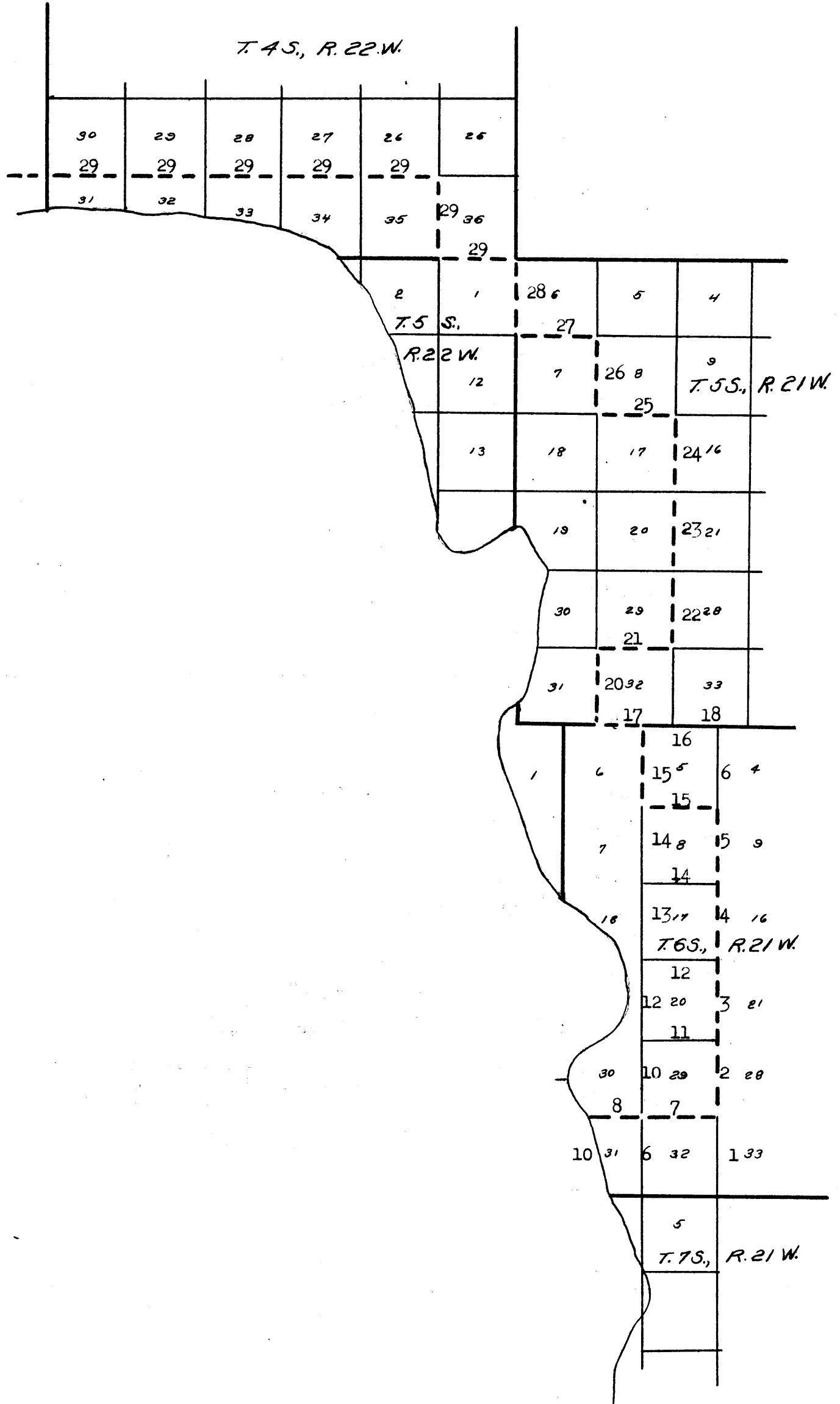
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INDEX DIAGRAM

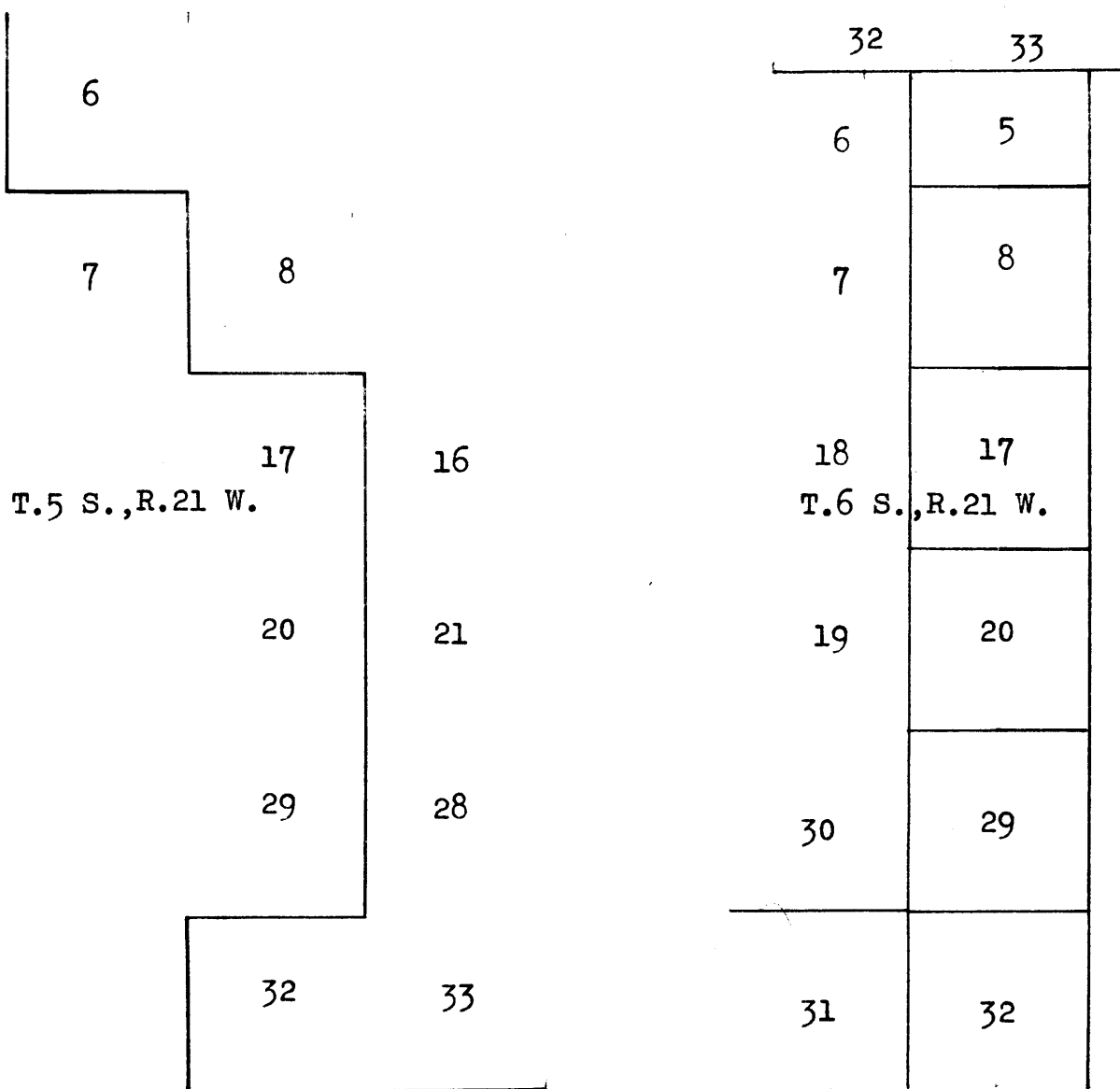
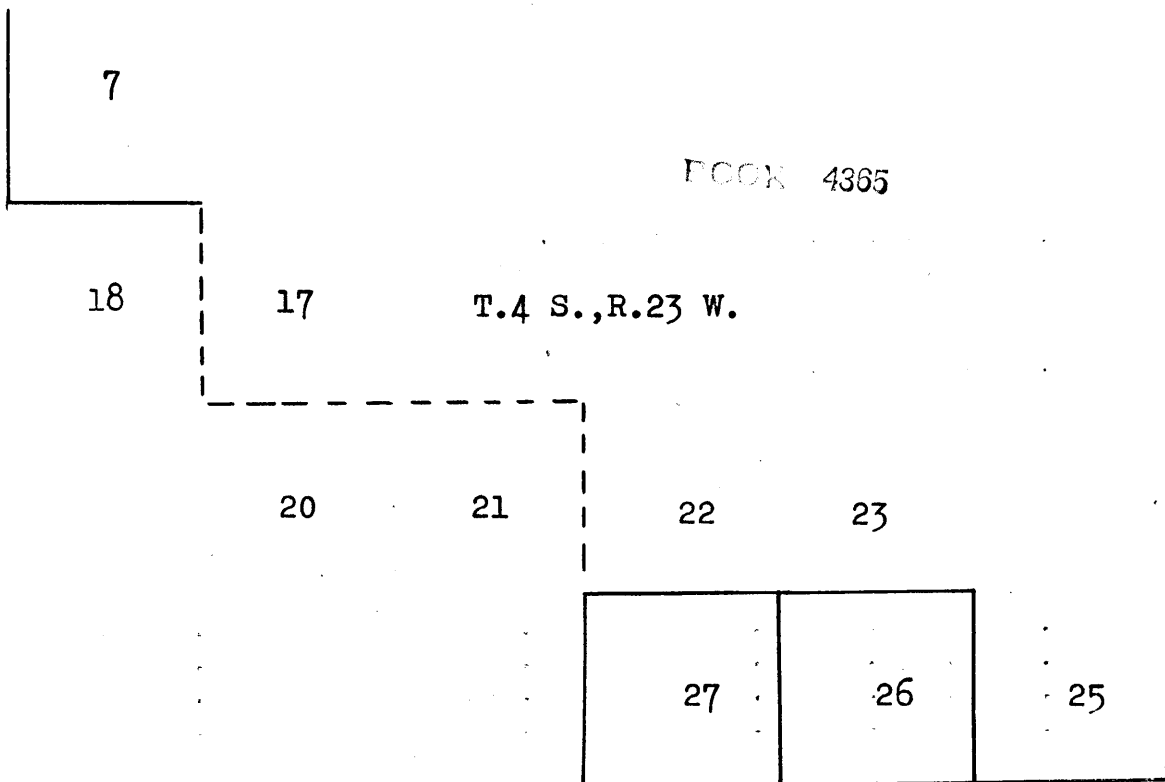
Imperial National Wildlife Refuge
Boundary.

ARIZONA.

FOOT 4865



BOOK 4365



Retracements along the Wild Life Refuge boundary in T.4 S.,R.22 W. and T.3 S.,R.23 W., were made by Bert E. Wakeman.

The resurvey of a portion of the south boundary of T.2 S.,R.23 W., was made by Bert E. Wakeman, under the direction of Averill.

WHEN SURVEYED.

	Began	Completed
T. 5 S., R. 21 W.	Oct. 25, 1946	Nov. 5, 1946
T. 6 S., R. 21 W.	Oct. 29, 1946	Nov. 6, 1946
T. 4 S., R. 23 W.	Dec. 6, 1946	Jan. 7, 1947
T. 2 S., R. 23 W.	Dec. 10, 1946	Dec. 10, 1946

The surveys herein noted were executed with Buff and Buff transits Nos. 24849 and 26591, and Gurley transit No. 371537, equipped with Smith solar attachments, and constructed in accordance with the standard specifications of the Bureau of Land Management. The instruments were in satisfactory adjustment prior to beginning the survey, and tested and found to be free from appreciable error.

The directions of all lines were determined by direct observation on the sun for azimuth, supplemented by observations with the solar units. Measurements were made with steel tapes, 5 chains in length, graduated every link for the first 100 links, and the remainder at intervals of 10 links. The tapes were first tested with a Lufkin standard 1 chain tape and found correct. The measurements were made on the slope and the vertical angle of each interval was ascertained by a clinometer in good adjustment; the horizontal equivalents are entered in the field note record.

Preliminary to resurvey the lines of the original survey are retraced, and thorough search is made for all corners and other calls of record. Identified corners are remonumented in their original positions; lost corners are reestablished and remonumented at proportionate positions based upon the original record. All retracement data are thoroughly verified and only true line results are given herein.

The data presented with the special instructions indicates the geographic position of the southeast corner of T.5 S., R.21 W., as follows:

Latitude: $32^{\circ} 56' 28''$ N. Longitude: $114^{\circ} 22' 17''$ W.

The observed mean magnetic declination is 15° E.

October 24, 1946; at observing station situated in section 20, T.5 S., R.21 W., G. & S.R. M., Arizona, at 5h. 34.2m. p.m., l.m.t., observe Polaris, making three sights each with the telescope in direct and reversed positions, noting the deflection angle to a reference mark about 15 miles distant.

Mean horizontal angle to Polaris	$5^{\circ} 23' 05''$
Mean vertical angle to Polaris	$32^{\circ} 59' 00''$
Reduced bearing to reference mark	$N.4^{\circ} 12' 25''$ W.
Reduced latitude	$32^{\circ} 58' 22''$ N.

The solar units were tested upon the meridian determined by Polaris observation, and maintained in good adjustment throughout the survey.

.....

The Imperial National Wildlife Refuge was established by Executive Order No. 8685, dated February 14, 1941. The following surveys and resurveys were executed to identify and monument the corners of the public land surveys that define the boundaries of this Refuge.

T.6 S., R.21 W.

Subdivisional surveys in this township are limited to sections 5, 8, 17, 20, 29, 31 and 32.

T.6 S., R.21 W.

Chains	
	<p style="text-align: right;">on S. bdy.</p> <p>The corner of sections 4, 5, 32 and 33 is an iron post, 2 ins. diam., firmly set, marked and witnessed as described in the 1930 survey record.</p> <p>N.0°02'W., bet. secs. 32 and 33.</p> <p>Asc. very gradually, over slightly rolling land, draining SW.</p>
31.50	Wash, 5 lks. wide, course SW. Asc. 55 ft. over SE. slope.
37.50	Small spur, slopes SW. Asc. 20 ft.
40.00	Point for $\frac{1}{4}$ sec. cor. of secs. 32 and 33.
	<p>Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.</p> <p style="text-align: center;"> $\frac{1}{4}$ S 32 S 33 1946 </p> <p>Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.</p> <p>Continue ascent 90 ft., over broken land, draining SW.</p>
52.30	Wash, 10 lks. wide, course SW.
57.00	Spur, slopes SW.
58.70	Wash, 10 lks. wide, course SW.
70.25	Low divide, bears NW. and SE. Desc. 95 ft. over NE. slope.
80.00	Point for cor. of secs. 28, 29, 32 and 33.
	<p>Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.</p> <p style="text-align: center;"> T6S R21W S 29 S 28 S 32 S 33 1946 </p> <p>Raise a mound of stone 3 ft. base, 2 ft. high, W. of cor.</p> <p>Land, broken hills. Soil, rocky, 3rd. rate. Very scattered ironwood, paloverde and cacti.</p>
	<p>N.0°02'W., bet. secs. 28 and 29.</p> <p>Desc. 12 ft. over gradual slope.</p>
6.00	Wash, 20 lks. wide, course W. Asc. 20 ft.
8.00	Small spur, slopes NW. Desc. 45 ft.
16.00	Foot of hills, bearing NW. and SE. Over gently rolling desert, draining W.
40.00	Point for $\frac{1}{4}$ sec. cor. of secs. 28 and 29.

T.6 S., R.21 W.

4885

Chains

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$$\frac{1}{4}$$

S 29	S 28
1946	

An ironwood, .8 ins. diam., bears N.82 $\frac{3}{4}$ °W., 432 lks. dist., mkd. $\frac{1}{4}$ S29 BT

A paloverde, .5 ins. diam., bears S.42°E., 168 lks. dist., mkd. $\frac{1}{4}$ S28 BT

45.00 Wash, 2 chs. wide, course W.

72.40 Wash, 70 lks. wide, course W.

80.00 Point for cor. of secs. 20, 21, 28 and 29.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

$$T6S R21W$$

S 20	S 21
S 29	S 28

1946

Raise a mound of petrified wood, 3 ft. base, 2 ft. high, W. of cor.

Land, slightly rolling.

Soil, gravelly and rocky, 3rd. rate.

Scattered ironwood, paloverde and cacti.

N.0°02'W., bet. secs. 20 and 21.

Over slightly rolling land, through scattered undergrowth.

12.00 Wash, 1 ch. wide, course W.

23.30 Wash, 1 ch. wide, course S.60°W.

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 20 and 21.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$$\frac{1}{4}$$

S 20	S 21
1946	

Raise a mound of stone and petrified wood, 4 ft. base, 2 $\frac{1}{2}$ ft. high, W. of cor.

55.30 Wash, 2 chs. wide, course W.

76.70 Wash, 1.50 chs. wide, course S.65°W.

80.00 Point for cor. of secs. 16, 17, 20 and 21.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the

Chains

ground, with brass cap mkd.

T6S R21W
S 17 | S 16
S 20 | S 21

1946

from which

A paloverde, 6 ins. diam., bears S.28 $\frac{3}{4}$ °E., 136 lks. dist., mkd. T6S R21E S21 BT

An ironwood, .4 ins. diam., bears N.85°W., 175 lks. dist., mkd. T6S R21W S17 BT

Raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Land, slightly rolling.
Soil, sandy and rocky, 2nd. and 3rd. rate.
Scattered ironwood, paloverde and cacti.

N.0°02'W., bet. secs. 16 and 17.

Over slightly rolling desert, draining W.

11.50 Wash, 75 lks. wide, course S.80°W.

21.20 Wash, 50 lks. wide, course S.80°W.

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 16 and 17.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$
S 17 | S 16
1946

An ironwood, 12 ins. diam., bears S.68 $\frac{1}{4}$ °E., 242 lks. dist., mkd. $\frac{1}{4}$ S16 BT

A paloverde, 8 ins. diam., bears S.53 $\frac{3}{4}$ °W., 233 lks. dist., mkd. $\frac{1}{4}$ S17 BT

50.00 Wash, 3 chs. wide, course N.10°W.

60.00 Wash, 1 ch. wide, course N.70°W.

75.80 Wash, 1.50 chs. wide, course S.80°W.

80.00 Point for cor. of secs. 8, 9, 16 and 17.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

T6S R21W
S 8 | S 9
S 17 | S 16

1946

Raise a mound of stone, 2 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

T.6 S., R.21 W.

4885

Chains

Land, slightly rolling.
Soil, sandy and rocky, 2nd. and 3rd. rate.
Scattered ironwood, paloverde, greasewood, ocotillo and cacti.

N.0°02'W., bet. secs. 8 and 9.

Over nearly level land, through scattered undergrowth.

18.00 Wash, 5 chs. wide, course NW.

29.20 Wash, 70 lks. wide, course N.30°W.

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 8 and 9.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$
S 9 | S 8
1946

Raise a mound of stone, 2 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

42.40 Wash, 50 lks. wide, course S.80°W.

61.50 Wash, 90 lks. wide, course S.60°W.

78.20 Wash, 60 lks. wide, course N.80°W.

80.00 Point for cor. of secs. 4, 5, 8 and 9.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

T6S R21W
S 5 | S 4
S 8 | S 9
1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

Land, slightly rolling.
Soil, sandy and rocky, 2nd. and 3rd. rate.
Scattered ironwood, paloverde, greasewood, ocotillo and cacti.

N.0°02'W., bet. secs. 4 and 5.

Over slightly rolling land, through scattered undergrowth.

1.10 Wash, 40 lks. wide, course W.

30.00 Drain, course NW.

40.00 Point for $\frac{1}{4}$ sec. cor., of secs. 4 and 5.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

T. 6 S., R: 21 W.

Chains

$\frac{1}{4}$
 S 5 | S 4
 1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

49.96 Intersect the First Standard Parallel South.

Point for closing cor. of frac. secs. 4 and 5.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd..

T5S R21W
 S 33

 S 5 | S 4
 T6S R21W
 CC
 1946

Raise a mound of stone, 3 ft. base, 2 ft. high, S. of cor..

The standard cor. of secs. 33 and 34, T.5 S., R.21 W. bears N.89°34'E., 17.61 chs. dist.

The standard $\frac{1}{4}$ sec. cor. of sec. 33, bears S.89°34'W. 22.15 chs. dist.

Land, slightly rolling.
Soil, rocky, 2nd. and 3rd. rate.
Scattered ironwood, paloverde, greasewood, ocotillo and cacti.

 on S, bdy.
 The cor. of secs. 5, 6, 31 and 32 is an iron post, 2 ins. diam., firmly set, marked and witnessed as described in the 1930 survey record.

N.0°03'W., bet. secs. 31 and 32.

Over gentle SW. slope, through scattered undergrowth.

19.60 Wash, 10 lks. wide, course SW.

30.00 Wash; 30 lks. wide, course SW.

38.80 Wash, 20 lks. wide, course SW.

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 31 and 32.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$
 S 31 | S 32
 1946

Raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

T.6 S., R.21 W.

Chains

- 42.60 Old graded roadway, now abandoned, bears NW. and SE.
 62.90 Wash, 40 lks. wide, course SW. Enter broken bench land, draining SW. Asc. 40 ft.
 79.04 Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, for witness cor. of secs. 29, 30, 31 and 32, with brass cap mkd.

WC
 T6S R21W
 S 30 | S 29
 S 31 | S 32

1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

- 79.15 Desc. N. slope 25 ft.
 79.75 Enter wash, course SW.
 80.00 Point for cor. of secs. 29, 30, 31 and 32.

Due to the probability of flash floods a monument established at this point would be of doubtful permanency.

Land, slightly rolling.
 Soil, gravelly, sandy and rocky, 2nd. and 3rd. rate.
 Scattered ironwood, paloverde, greasewood, ocotillo and cacti.

 From the cor. of secs. 28, 29, 32 and 33.

N.89°59'W., bet. secs. 29 and 32.

Over broken hills; asc. 30 ft. over NE. slope.

- 5.00 Saddle, in small spur, sloping N., low divide, bears SE. and W. to SW. Desc. 45 ft.
 21.00 Wash, 10 lks. wide, course NW. Asc. 20 ft.
 26.25 Rocky spur, slopes N., divide bearing N. and S. Desc. 65 ft.
 28.00 Wash, 10 lks. wide, course SW. Asc. 145 ft.
 32.50 Spur, slopes S.10°W. Desc. 85 ft.
 38.60 Gully, course S.10°W. Asc. 20 ft. over SE. slope.
 40.01 Point for $\frac{1}{4}$ sec. cor. of secs. 29 and 32.
 Set an iron post, 3 ft. long, 1 in. diam., 20 ins. in the ground, to rock, and in a mound of stone, 3 ft. base, 16 ins. high, with brass cap mkd.
 $\frac{1}{4}$ S 29
 S 32
 1946
 Continue ascent 30 ft.
 41.00 Over broken SW. slope, gradual descent.

Chains	
55.70	Spur, slopes S., Desc. 105 ft. over W. slope.
65.50	Wash, 10 lks. wide, course SW., in gulch, 30 ft. deep. Desc. gradually over broken bench land.
79.00	Desc. 25 ft. over SW. slope of bench.
79.60	Enter wash, course SW.
80.02	True point for cor. of secs. 29, 30, 31 and 32. Witness cor. monument bears S.0°03'E., 0.96 chs. dist. Land, broken and rocky hills. Soil, rocky, 3rd. and 4th. rate. Scattered greasewood, and cacti.

	West, bet. secs. 30 and 31. Over broken bench land, through scattered undergrowth. Across wash, in gulch, course SW.
1.70	Leave wash; asc. 15 ft.
2.50	Point of low gravel spur, from NE.
11.00	Gully, course SW.
13.90	Wash, 20 lks. wide, course S.
25.40	Small gravel spur, slopes S.20°W. Desc. 30 ft.
28.30	Graded roadway, curves from SE. to NW., now abandoned.
36.50	Margin of small back-water arm of canal, bears south about 1 ch. distant.
38.50	Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, for witness $\frac{1}{4}$ sec. cor. of secs. 30 and 31, with brass cap mkd. WC $\frac{1}{4}$ $\frac{S \ 30}{S \ 31}$ 1946 Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor. Monument is situated upon small shelf, at point of gravel spur, from NE., at top of cut bank sloping SW. to canal. Desc. 25 ft. over cut bank.
39.50	Canal levee, bears N.42½°W. and S.42½°E.
39.95	Margin of water in main canal, Gila River Project, course S.42½°E.
40.00	Point for $\frac{1}{4}$ sec. cor. of secs. 30 and 31, falls in canal.
41.25	Margin of water, right bank of canal.
41.65	Across roadway along levee, right bank of canal. Road bears NW. to Army base at Imperial Dam, and SE. to Yuma, Arizona.

Chains	
42.20	West edge of roadway, on canal levee. Desc. 20 ft. over W. slope of embankment.
43.50	Over bottom land, draining SW.
45.36	A brass plug, 1 in. diam., embedded in concrete post, 5 ins. diam., firmly set, 15 ins. above ground, marked AHD RPPOT 43 + 47 BK 300 29+770, bears South 53 lks. dist.
46.00	Enter mesquite timber, bears NW. and S.
49.00	Leave mesquite, enter dense arrow-weed in swampy ground.
53.00	Margin of water of Laguna Reservoir, bearing SE. and NW. Extends northwest about 2 chs. dist., to low gravel spur, bearing West.
70.00	Leave water and dense undergrowth, bearing N. and S. A low gravel spur, extending from the E. terminates about 1 ch. N. of line.
	Over open bottom land, silt filled and subject to flood upon any rise of the water of Laguna Reservoir.
77.00	Enter gravel fill area; a testing ground for heavy mobile equipment in maneuvers by Army Engineer Corp.
81.84	Heavy woven wire fencing, 8 ft. high, forming a rectangular compound for storage of Army heavy mobile equipment, bears N.40½° W., 2.67 chs. dist. to corner, and S.40½° E., 4.87 chs. dist., to corner.
	Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, for witness monument for cor. of secs. 25, 30, 31 and 36, with brass cap mkd.
	<p>T6S R22W R21W S 25 S 30 WC S 36 S 31 1946</p>
	Bury a washed granite stone, 8x6x5 ins., marked with a cross + alongside of post.
	The east end of Imperial Dam bears N. 10° E., 47.00 chs. dist.
	The witness meander cor. of secs. 8 and 17, T. 15 S., R. 24 E., S.B.M., California, bears N.66° 00' W., 41.75 chs. dist. as determined by calculation.
82.77	The true point for cor. of secs. 25, 30, 31 and 36, on W. bdy. of township. As determined by calculation, this point is due north of the witness cor. of secs. 13 and 24, T. 7 S., R. 22 W., set on the south edge of Laguna Reservoir, by Francis E. Joy in 1930.
	Land, E. ½ mile is a broken bench formation; the west portion lies within the confines of high water of Laguna Reservoir. That area utilized by the Army Engineer Corp in testing and construction maneuvers has been created by a light gravel fill.
	Soil, E. ½ mile, rocky gravel, 3rd rate; remainder sand and silt deposit, 2nd rate.
	Scattered greasewood and cacti on uplands, dense arrow-weed, mesquite and willow in bottom lands.

Chains	
	<p>Traverse of Margin of Laguna Reservoir in Section 31.</p> <p style="text-align: center;">- - - - -</p> <p>From point on line bet. secs. 30 and 31, 53.00 chains W. of the cor. of secs. 29, 30, 31 and 32, at margin of water of Laguna Reservoir.</p> <p>S. 23° E. 22.00 chs.</p> <p>S. 6° E. 17.00 chs.</p> <p>S. 8° E. 16.00 chs.</p> <p>S. 18° E. 19.00 chs.</p> <p>S. 9° E. 9.00 chs.</p> <p style="text-align: right;">To the South bdy. of Sec. 31, at a point West, 33.00 chs. dist., from the cor. of secs. 5, 6, 31 and 32, and at E. edge of Laguna Reservoir.</p> <p style="text-align: center;">- - - - -</p> <p>From true point for cor. of secs. 29, 30, 31 and 32.</p> <p>N. 0° 03' W., bet. secs. 29 and 30.</p> <p>Over broken hills, through scattered undergrowth. Across wash, in gulch, course SW.</p> <p>1.25 Leave wash, asc. 65 ft. over SE. slope.</p> <p>10.00 Gravel spur, slopes S. 20° W.</p> <p>12.50 Wash, 10 lks. wide, course SW. Asc. 65 ft. over S. slope.</p> <p>25.90 Spur, slopes W. Desc. 110 ft. over N. slope.</p> <p>33.30 Gulch, course SW. Asc. 60 ft.</p> <p>35.35 Spur, slopes S. 20° W. Desc. 25 ft. along W. slope.</p> <p>40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 29 and 30.</p> <p>Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.</p> <p style="text-align: center;">$\frac{1}{4}$</p> <p style="text-align: center;">S 30 S 29</p> <p style="text-align: center;">1946</p> <p>Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.</p> <p>Desc. gradually over NW. slope.</p> <p>42.40 Wash, 10 lks. wide, course S. 20° W. Asc. 60 ft. over SE. slope.</p> <p>54.00 Change of slope to NE. Low divide, bears E. and W. Desc. 120 ft.</p> <p>61.05 Wash, 15 lks. wide, course W. Asc. 60 ft.</p> <p>66.30 Spur, slopes W. Desc. 90 ft. over N. slope.</p>

T.6 S., R.21 W.

B.L. 1008

Chains

68.70 Wash, 60 lks. wide, course S.20°W. Asc. 110 ft.

74.25 Spur, slopes W. Desc. 30 ft. over gradual N. slope.

80.00 Point for cor. of secs. 19, 20, 29 and 30.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

T6S R21W	
S 19 S 20	
S 30 S 29	

1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

Land, broken hills.
Soil, rocky, 3rd. and 4th. rate.
Scattered greasewood and cacti.

From the cor. of secs. 20, 21, 28 and 29.

West, bet. secs. 20 and 29.

Over slightly rolling land, through scattered undergrowth.

18.00 Wash, 1 ch. wide, course S.60°W.

30.00 Enter broken land, bears NW. and SE. Asc. 45 ft. over SE. slope.

33.00 Change of slope to SW. Desc. 80 ft.

36.00 Wash, 3 chs. wide, course S. Asc. 10 ft.

39.96 Point for $\frac{1}{4}$ sec. cor. of secs. 20 and 29.

Set an iron post, 3 ft. long, 1 in. diam., 26 ins. in the ground, to bedrock, and in a mound of stone 3 ft. base, 10 ins. high, with brass cap mkd.

$\frac{1}{4}$ S 20
S 29

1946

Raise a mound of stone, 4 ft. base, 2 ft. high, N. of cor.

Continue gradual ascent, 10 ft.

41.00 Small spur, slopes SW. Desc. 75 ft. over W. slope.

52.20 Gully, course S. Asc. 35 ft.

56.00 Small spur, slopes S. Desc. 70 ft.

66.80 Wash, 10 lks. wide, course S. Asc. 45 ft.

77.70 Low spur, slopes NW. Desc. slightly.

79.92 The cor. of secs. 19, 20, 29 and 30.

Land, slightly rolling hills.
Soil, gravelly and rocky.
Scattered greasewood and cacti.

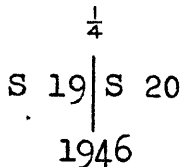
Chains

N.0°03'W., bet. secs. 19 and 20.

Over rolling hills, through scattered undergrowth.

- 4.40 Drain, course W.
- 9.40 Ravine, course W.
- 12.90 Small spur, slopes W. Desc. 80 ft.
- 17.15 Wash, 15 lks. wide, course W. Asc. 110 ft. over S. slope.
- 30.50 Spur, slopes W. Desc. 85 ft.
- 35.00 Wash, 10 lks. wide, course W.
- 40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 19 and 20.

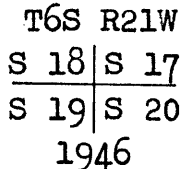
Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.



Raise a mound of stone, 3 ft. base. 2 ft. high, W. of cor.

- 40.15 Gully, course W.
- 49.65 Wash, 30 lks. wide, course S.70°W.
- 65.10 Wash, 30 lks. wide, course W.
- 73.35 Small spur, slopes W.
- 78.40 Wash, 10 lks. wide, course W.
- 80.00 Point for cor. of secs. 17, 18, 19 and 20.

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.



Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

Land, rolling hills.
Soil, rocky, 3rd. rate.
Scattered greasewood and cacti.

From the cor. of secs. 16, 17, 20 and 21.
S.89°57'W., bet. secs. 17 and 20.
Over slightly rolling land, through scattered undergrowth.

- 37.30 Wash, 50 lks. wide, course N.80°W.
- 39.96 Point for $\frac{1}{4}$ sec. cor. of secs. 17 and 20.

T.6 S., R.21 W.

Chains

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$$\frac{1}{4} \begin{array}{l} S 17 \\ S 20 \end{array}$$

1946

Raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.

58.00 Low spur, slopes N.70°W.

79.92 The cor. of secs. 17, 18, 19 and 20.

Land, slightly rolling.
Soil, rocky and gravelly, 3rd. rate.
Scattered greasewood and cacti.

N.0°03'W., bet. secs. 17 and 18.

Over rolling land, through scattered undergrowth.

8.80 Small spur, slopes SW. Desc. 50 ft.

13.00 Wash, 1 ch. wide, course W. Asc. 80 ft.

25.90 Spur, slopes SW. Desc. 50 ft.

31.10 Wash, 70 lks. wide, course S.80°W. Asc. slightly.

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 17 and 18.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$$\frac{1}{4} \begin{array}{l} S 18 | S 17 \end{array}$$

1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W., of cor.

Continue over gently rolling land.

43.20 Wash, 30 lks. wide, course S.70°W. Asc. 100 ft. over gradual SE. slope.

72.90 Spur, slopes SE. Desc. 35 ft.

80.00 Point for cor. of secs. 7, 8, 17 and 18.

Set an iron post, 3 ft. long, 2 ins. diam., 28 ins. in the ground, with brass cap mkd.

$$\begin{array}{l} T6S R21W \\ S 7 | S 8 \\ S 18 | S 17 \end{array}$$

1946

Raise a mound of stone, 3 ft. base, 2 ft. high, W., of cor.

Chains	
	Land, slightly rolling hills. Soil, gravelly and rocky, 3rd. rate. Scattered greasewood and cacti.

	From the cor. of secs. 8, 9, 16 and 17. S.89°55'W., bet. secs. 8 and 17. Over nearly level land, through scattered undergrowth.
35.30	Wash, 25 lks. wide, course S.30°W.
39.96	Point for $\frac{1}{4}$ sec. cor. of secs. 8 and 17. Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.
	$\frac{1}{4} \begin{array}{l} S \ 8 \\ S \ 17 \end{array}$ 1946
	Raise a mound of petrified wood, 2 ft. base, 3 ft. high, N. of cor.
45.00	Enter slightly rolling land.
58.70	Drain, 5 lks. wide, course S.
64.00	Small spur, slopes NW.
76.40	Drain, 5 lks. wide, course NW.
79.92	The cor. of secs. 7, 8, 17 and 18. Land, slightly rolling. Soil, gravelly, 3rd. rate. Scattered greasewood and cacti.

	N.0°03'W., bet. secs. 7 and 8. Over rolling land, through scattered undergrowth.
1.35	Drain, 5 lks. wide, course NW.
7.70	Wash, 10 lks. wide, course NW.
28.80	Wash, 10 lks. wide, course W.
37.60	Wash, 50 lks. wide, course S.70°W. Asc. slightly.
40.00	Point for $\frac{1}{4}$ sec. cor. of secs. 7 and 8. Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.
	$\frac{1}{4} \begin{array}{l} S \ 7 \\ S \ 8 \end{array}$ 1946
	Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.
	Asc. 100 ft. over S. slope.

T.6 S., R.21 W.

Chains	
49.50	Spur, slopes E. Along E. slope, asc. gradually.
76.80	Spur, slopes E. Desc. 50 ft.
80.00	Point for cor. of secs. 5, 6, 7 and 8. Set an iron post, 3 ft. long, 2 ins. diam., 4 ins. in the ground, to bedrock, and in a mound of stone, 5 ft. base, 30 ins. high, with brass cap mkd.
	T6S R21W S 6 S 5 S 7 S 8 1946
	Land, rolling hills. Soil, rocky, 3rd. rate. Scattered greasewood and cacti.

	From the cor. of secs. 4, 5, 8 and 9. S.89°58'W., bet. secs. 5 and 8. Over slightly rolling land, through scattered undergrowth.
2.80	Wash, 1 ch. wide, course NW.
18.20	Wash, 2 chs. wide, course S.30°W.
39.93	Point for $\frac{1}{4}$ sec. cor. of secs. 5 and 8. Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the ground, to rock, and in a mound of stone, 4 ft. base, 2 ft. high, with brass cap mkd.
	$\frac{1}{4}$ $\frac{S 5}{S 8}$ 1946
47.80	Wash, 40 lks. wide, course S.
53.00	Small spur, slopes SW.
60.20	Wash, 10 lks. wide, course SW. Asc. 110 ft. over E. slope.
73.00	Spur, slopes N. Desc. 45 ft. over N. slope.
79.86	The cor. of secs. 5, 6, 7 and 8. Land, slightly rolling. Soil, rocky, 3rd. rate. Scattered greasewood and cacti.

	N.0°03'W., bet. secs. 5 and 6. Over broken land, through scattered undergrowth. Desc. 50 ft. over N. slope.
3.75	Wash, 5 lks. wide, course N.70°W.
19.60	Wash, 10 lks. wide, course SW.
32.30	Small spur, slopes E.

Chains

40.00 Point for $\frac{1}{4}$ sec. cor. of secs. 5 and 6.

Set an iron post, 3 ft. long, 1 in. diam., 4 ins. in the ground, to bedrock, and in a mound of stone 6 ft. base, 30 ins. high, with brass cap mkd..

$\frac{1}{4}$
S 6 | S 5
1946

41.50 Desc. 90 ft. over NE. slope.

46.90 Wash, 10 lks. wide, course NE. Asc. 85 ft.

49.82 Intersect the First Standard Parallel South.

Point for closing cor. of frac. secs. 5 and 6.

Set an iron post, 3 ft. long, 2 ins. diam., 16 ins. in the ground, to bedrock, and in a mound of stone, 4 ft. base, 20 ins. high, with brass cap mkd..

T5S R21W
S 32

S 6 | S 5
T6S R21W
CC
1946

The standard cor. of secs. 32 and 33, T.5 S., R.21 W. bears N.89°46'E., 18.11 chs. dist.

The standard $\frac{1}{4}$ sec. cor., of sec. 32, bears S.89°46'W. 20.57 chs. dist.

Land, broken and hilly.
Soil, rocky, 3rd. rate.
Scattered greasewood and cacti.

At mid-point on the N. bdy. of sec. 5, S.89°48'W., 17.79 chs. dist., from the standard $\frac{1}{4}$ sec. cor. of sec. 33,

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, at $\frac{1}{4}$ sec. cor. of sec. 5 only, with brass cap mkd.

$\frac{1}{4}$ S 5
1946

Raise a mound of stone, 3 ft. base, 2 ft. high, S. of cor.

Resurvey of Part of First Standard Parallel South, along
S. Bdy. of T.5 S., R.21 W.

Chains

The 1st. Stan. Par. S., through R.21 W., was surveyed by T. F. White, in 1874. In 1881, M. Santee retraced this line in connection with his survey of fractional T. 5 S., R.21 W.

The standard cor. of secs. 31 and 32, marked by the original monument, a malpais stone, 14 x 12 x 8 ins., set 2 ins. in the ground, marked with 4 grooves on the E. and 2 grooves on the W. faces.

At corner point

Set an iron post, 3 ft. long, 2 ins. diam., 14 ins. in the ground, and in a mound of stone, 4 ft. base, 20 ins. high, with brass cap mkd.

SC
T5S R21W
S 31 | S 32
1946

Bury the old corner stone alongside iron post.

N.89°43'E., along the S. bdy. of sec. 32.

Over broken hills, through scattered undergrowth. Asc. 25 ft. over W. slope.

- 1.70 Spur, slopes N. Desc. 70 ft.
8.80 Ravine, 5 lks. wide, course N. Asc. 65 ft.
15.70 Spur, slopes N. Desc. 75 ft.
19.60 Gully, course N. Asc. 70 ft.
22.50 Short spur, slopes N. Desc. 115 ft.
33.00 Wash, 70 lks. wide, course N. Asc. 105 ft. over W. slope.
37.68 The standard $\frac{1}{4}$ sec. cor. of sec. 32, marked by the original monument, a pumice stone, 18 x 12 x 7 ins., lying in a slight depression on the E. edge of a dilapidated mound of stone, marked $\frac{1}{4}$ on one face.

At corner point

Set an iron post, 3 ft. long, 1 in. diam., 16 ins. in the ground, to bedrock, and in a mound of stone 4 ft. base, 20 ins. high, with brass cap mkd.

SC
 $\frac{1}{4}$ S 32
1946

Bury the old corner stone alongside iron post.

Rocky spur, extends N.20°E.

N.89°46'E., beginning new measurement.

Desc. 100 ft. over an increasing E. slope.

- 7.10 Wash, 15 lks. wide, course N. Asc. 75 ft.
15.00 Top of ascent; over flat spur, sloping NE.

Resurvey of Part of First Standard Parallel South, along
S. Bdy. of T.5 S., R.21 W.

Chains	
20.57	The closing cor. of secs. 5 and 6, T.6 S., R.21 W. Desc. 100 ft. over SE. slope.
25.50	Wash, 20 lks. wide, course NE. Asc. 85 ft.
28.00	Spur, slopes N. to NE. Desc. 85 ft. over E. slope.
38.68	The standard cor. of secs. 32 and 33, marked by the original monument, a volcanic stone, 20 x 10 x 6 ins., lying on earth mound, 4 ft. base, 1 ft. high, marked with 4 grooves on the E. and 2 grooves on the W. faces, and SC on N. face. At corner point Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd. SC T5S R21W <u>S 32 S 33</u> 1946 Bury the old corner stone alongside iron post. Raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor. Land, broken hills. Soil, rocky, 3rd. and 4th. rate. Scattered greasewood and cacti.

	N.89°48'E., along the S. bdy. of sec. 33. Over rolling land, through scattered undergrowth. Desc. slightly, over E. slope.
1.20	Drain, course N.
10.50	Wash, 15 lks. wide, course NW. Asc. 80 ft. over gradual SW. slope.
21.83	The $\frac{1}{4}$ sec. cor., of sec. 5, T.6 S., R.21 W.
25.00	Low spur, slopes SE. Desc. 25 ft.
35.30	Wash, 10 lks. wide, course NW.
39.62	The standard $\frac{1}{4}$ sec. cor. of sec. 33, marked by the original monument, a volcanic stone, 17 x 8 x 5 ins., lying in a mound of earth, 3 ft. base, 1 ft. high, marked $\frac{1}{4}$ on N. face. At the corner point Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd. SC <u>$\frac{1}{4}$ S 33</u> 1946 Bury the old corner stone alongside iron post.

Resurvey of Part of First Standard Parallel South, along
S. Bdy. of T.5 S., R.21 W.

Chains

Raise a mound of stone, 3 ft. base, 2 ft. high, N.
of cor.

No evidence remains of original bearing trees.

N.89°34'E., beginning new measurement.

Asc. slightly, over gradual SW. slope.

11.75 Wash, 10 lks, wide, course SW.

22.15 The closing cor. of secs. 4 and 5, T.6 S., R.21 W.

30.00 Low divide, bears NE. and SW.

Desc. 80 ft. over gradual E. slope.

39.76 Point for the standard cor. of secs. 33 and 34, deter-
mined from the original bearing trees.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in
the ground, with brass cap mkd.

SC	
T5S	R21W
S 33	S 34

1946

from which

An ironwood, 6 ins. diam., partly dead, bears
S.56½°E., 150 lks. dist., marked TVIS RXXIW

A paloverde, 10 ins. diam., dead and fallen, bears
S.62°W., 30 lks. dist., marks are faint and illegible.

An ironwood, 24 ins. diam., bears N.65°W., 95 lks.
dist., no markings visible.

A paloverde, 9 ins. diam., dead and fallen, bears
N.29½°W., 70 lks. dist., marked TVS RXXIW BT

Raise a mound of stone, 3 ft. base, 2 ft. high, N.,
of cor.

Land, slightly rolling.

Soil, gravelly and rocky, 2nd. and 3rd. rate.

Scattered greasewood and cacti; a few paloverde and iron-
wood trees.

Dependent Resurvey, T.5 S., R.21 W.

Chains

Resurvey of part of the subdivision of T.5 S., R.21 W., originally executed by M. Santee, in 1881.

From the standard cor. of secs. 31 and 32.

N.0°23'E., bet. secs. 31 and 32.

Over broken hills, through scattered undergrowth. Along W. slope of spur, bearing N.

5.00 Desc. 65 ft. over NW. slope.

11.20 Gully, course W. Asc. 50 ft.

20.50 Top of ascent; E. slope of small butte. Desc. 170 ft. over NE. slope.

30.00 Wash, 20 lks. wide, course N.20°W. Asc. 30 ft.

39.80 The $\frac{1}{4}$ sec. cor. of secs. 31 and 32, marked by the original monument, a volcanic stone, 16 x 10 x 4 ins., supported in a mound of stone, 4 ft. base, 2 ft. high, marked $\frac{1}{4}$ on the N. face.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 16 ins. in the ground, to rock, and in a mound of stone, 3 ft. base, 20 ins. high, with brass cap mkd.

$$\begin{array}{c} \frac{1}{4} \\ S\ 31\ | \ S\ 32 \\ 1946 \end{array}$$

Bury the old corner stone alongside iron post.

N.0°02'W., beginning new measurement.

Asc. 60 ft.

7.30 Top of east peak of twin buttes, on small spur, from SE.

Desc. 140 ft. over NE. slope.

16.00 Foot of slope; continue over slightly rolling land, draining W.

40.26 The cor. of secs. 29, 30, 31 and 32, marked by a U.S. Bureau of Reclamation regulation iron post, 2 ins. diam., firmly set, 14 ins. above ground, marked on brass cap

$$\begin{array}{c} T5S \\ R\ 21\ W \\ S30\ | \ S29 \\ S31\ | \ S32 \end{array}$$

1934

Alongside iron post is the original corner stone, a volcanic rock, 16 x 14 x 5 ins., marked with 5 grooves on the E. and 1 groove on the S. faces.

Monument is witnessed by a mound of stone, 3 ft. base, 2 ft. high, to the E.

Dependent Resurvey, T.5 S., R.21 W.

Chains

Land, broken hills, and rolling.
Soil, rocky, 3rd. and 2nd. rate.
Scattered greasewood, cacti; a few paloverde and ironwood.

N.89°38'E., bet. secs. 29 and 32.

Over rolling land, through scattered undergrowth.

24.80 Wash, 15 lks. wide, course N.20°W.

38.40 Enter washed area, draining NW.

40.04 The $\frac{1}{4}$ sec. cor. of secs. 29 and 32, marked by the original monument, a volcanic stone, 14 x 12 x 5 ins., supported in a mound of stone, 2 ft. base, 1 ft. high, marked $\frac{1}{4}$ on the N. face, from which

An ironwood, 12 ins. diam., bears S.20°W., 77 lks. dist., marked $\frac{1}{4}$ S BT

A paloverde, 16 ins. diam., bears N.18 $\frac{1}{2}$ °W., 43 lks. dist., old marks are not legible.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$ S 29
S 32

1946

Bury the old corner stone alongside iron post.

N.89°50'E., beginning new measurement.

Continue over wash land.

3.50 Leave wash area, drains NW. Asc. 95 ft. over SW. slope.

16.25 Spur, slopes N. Desc. 40 ft. over E. slope.

23.80 Ravine, course N. Asc. 75 ft.

29.00 Spur, slopes N. Desc. 75 ft.

32.00 Ravine, course N. Asc. 60 ft.

38.50 Small spur, slopes N. Desc. 35 ft.

39.64 The cor. of secs. 28, 29, 32 and 33, marked by the original monument, a volcanic stone, 16 x 14 x 8 ins., supported in a mound of stone, 3 ft. base, 1 ft. high, marked with 4 grooves on the E. and 1 groove on the S. faces.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 20 ins. in the ground, to bedrock, and in a mound of stone 4 ft. base, 16 ins. high, with brass cap mkd.

T5S R21W
S 29 | S 28
S 32 | S 33

1946

Dependent Resurvey, T.5 S., R.21 W.

Chains

Bury the old corner stone alongside iron post.

Land, rolling in west half, the east portion broken hills.
Soil, gravel and rock, 2nd. and 3rd. rate.
Scattered greasewood, cacti, paloverde and ironwood.

N.0°28'W., bet. secs. 28 and 29.

Over rolling hills, through scattered undergrowth.

Desc. 80 ft. over NE. slope.

15.00 Foot of slope; continue very gradual descent over rolling land.

25.00 Enter wash, course W.

34.50 Leave wash; asc. 15 ft. to bench land.

37.00 Road, bears W. to Colorado River, at old Castle Dome Landing, and E, to SE., to State Highway No. 95, and Yuma.

39.96 The $\frac{1}{4}$ sec. cor. of secs. 28 and 29, marked by the original monument, a lava stone, 22 x 11 x 8 ins., supported in a mound of stone, 3 ft. base, 1 ft. high, marked $\frac{1}{4}$ on the W. face.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$
S 29 | S 28
1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

N.0°33'W., beginning new measurement.

Over bench land, draining to the west.

27.50 Enter wash area, draining W.

40.10 The cor. of secs. 20, 21, 28 and 29, marked by the original monument, a lava stone, 10 x 5 x 4 ins., supported in a mound of earth and stone, 4 ft. base, $1\frac{1}{2}$ ft. high, marked with 4 grooves on the E. and 2 grooves on the S. faces, from which

An ironwood, 12 ins. diam., bears S.18 $\frac{1}{4}$ °E., 270 lks. dist., old markings are not legible.

An ironwood, 20 ins. diam., bears S.64°W., 207 lks. dist., old markings are not legible.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

Dependent Resurvey, T.5 S., R.21 W.

Chains

T5S R21W
 S 20 | S 21
 S 29 | S 28

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 2 ft. base, 1½ ft. high, W. of cor.

Land, rolling hills in extreme south portion; remainder bench land.

Soil, gravelly and rocky, 2nd. and 3rd. rate. Scattered greasewood and cacti; ironwood and paloverde along washes.

N.0°26'W., bet. secs. 20 and 21.

Over wash area, through scattered timber.

29.00 Leave wash, course SW.

33.00 Over bench land.

36.60 Wash, 20 lks. wide, course S.70°W.

40.04 The ¼ sec. cor. of secs. 20 and 21, marked by the original monument, a lava stone, 14 x 8 x 8 ins., supported in a mound of earth and stone, 3 ft. base, 1 ft. high, marked ¼ on the W. face.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

¼
 S 20 | S 21

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

No evidence remains of the original bearing trees.

N.0°32'W., beginning new measurement.

3.30 Enter wash, course S.70°W.

7.90 Leave wash.

13.10 Old Castle Dome road, bears S.60°W. and N.60°E.

29.50 Enter wash, course S.80°W.

40.14 The cor. of secs. 16, 17, 20 and 21, marked by the original monument, a lava stone, 18 x 8 x 7 ins., firmly set, marked with 4 notches on the E. and 3 notches on the S. edges, and witnessed by a mound of stone, 3 ft. base, 1 ft. high, to the W.

Dependent Resurvey, T.5 S., R.21 W.

Chains

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

T5S R21W	
S 17	S 16
S 20	S 21

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

No evidence remains of the original bearing trees.

Land, nearly level bench.

Soil, gravelly and rocky, 2nd. rate.

Scattered paloverde and ironwood along washes.

N.0°22'W., bet. secs. 16 and 17.

Over wash area, through scattered undergrowth.

12.00 Over open bench land, leave wash.

25.50 Enter wash, course S.60°W.

33.00 Over bench land, leave wash.

39.94 The $\frac{1}{4}$ sec. cor. of secs. 16 and 17, marked by the original monument, a lava stone, 12 x 10 x 5 ins., supported in a mound of earth and stone, marked $\frac{1}{4}$ on the W. face.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$	
S 17	S 16
1946	

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

N.0°16'E., beginning new measurement.

17.00 Wash, 2 chs. wide, course S.80°W.

29.50 Enter wash area, course S.80°W.

40.00 The cor. of secs. 8, 9, 16 and 17, marked only by the original bearing tree,

An ironwood, 12 ins. diam., bears N.88°E., 153 lks. dist., marked TVS RXXIW SIX BT

At the corner point

Dependent Resurvey, T.5 S., R.21 W.

Chains

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

$$\begin{array}{r} \text{T5S R21W} \\ \text{S 8 | S 9} \\ \hline \text{S 17 | S 16} \end{array}$$

1946

from which

An ironwood, 14 ins. diam., bears S.17 $\frac{1}{2}$ °E., 303 lks. dist., marked T5S R21W S16 BT

An ironwood, 8 ins. diam., bears S.82 $\frac{1}{2}$ °W., 212 lks. dist., marked T5S R21W S17 BT

Land, nearly level mesa.
Soil, gravelly and rocky, 2nd. rate.
Scattered paloverde and ironwood along washes.

S.89° 51'W., bet. secs. 8 and 17.

Over wash area, draining SW., through scattered timber.

40.04 The $\frac{1}{4}$ sec. cor. of secs. 8 and 17, marked by the original monument, a volcanic stone, 18 x 14 x 5 ins., supported in a mound of earth and stone, from which

A paloverde, 10 ins. diam., bears S.23°E., 302 lks. dist., old markings are illegible.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$$\frac{1}{4} \begin{array}{r} \text{S 8} \\ \hline \text{S 17} \end{array}$$

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor.

S.89°31'W., beginning new measurement.

Continue over wash area.

11.50 Main channel of wash, 50 lks. wide, course SW.

37.00 Leave wash area, and across bench land.

40.06 The cor. of secs. 7, 8, 17 and 18, marked by the original monument, a volcanic stone, 15 x 10 x 8 ins. firmly set, marked with 5 notches on the E. and 4 notches on the S. edges, and witnessed by a mound of stone, 3 ft. base, 1 $\frac{1}{2}$ ft. high, to the W.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 32 ins. in the ground, with brass cap mkd.

Dependent Resurvey, T.5 S., R.21 W.

Chains

T5S R21W
 S 7 | S 8
 S 18 | S 17

1946

Bury the old corner stone alongside iron post.

An original bearing tree,

A paloverde, 10 ins. diam., bears N.59 $\frac{1}{4}$ °W., 247 lks. dist., old markings illegible; tree is remarked T5S R21W S7 BT

Raise a mound of stone, 3 ft. base, 1 $\frac{1}{2}$ ft. high, W. of cor.

Land, nearly level, draining SW.
 Soil, gravelly and rocky, 2nd. and 3rd. rate.
 Scattered paloverde and ironwood; some greasewood and cacti.

N.0° 23'E., bet. secs. 7 and 8.

Over open bench land, draining SW.

15.40 Enter wash, course S.80°W.

34.30 Leave wash area; asc. 20 ft. to bench land, bearing NE. and SW.

40.04 The $\frac{1}{4}$ sec. cor. of secs. 7 and 8, marked by the original monument, a volcanic stone, 11 x 8 x 5 ins., in a mound of earth and stone, 3 ft. base, 6 ins. high, marked $\frac{1}{4}$ on the W. face.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$
 S 7 | S 8
 1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 3 $\frac{1}{2}$ ft. base, 2 $\frac{1}{2}$ ft. high, W. of cor.

No evidence remains of the original bearing tree.

N.0°06'E., beginning new measurement.

Across open bench land.

40.06 The cor. of secs. 5, 6, 7 and 8, marked by the original monument, a volcanic stone, 12 x 8 x 8 ins., firmly set in a small mound of earth and stone, marked with 5 grooves on the E. and S. faces.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

Dependent Resurvey, T.5 S., R.21 W.

Chains

T5S	R21W
S 6	S 5
S 7	S 8

1946

Bury the old corner stone alongside iron post.

A U.S. Geological Survey bench mark bears S.48°31'E., 17.84 chs. dist., a regulation bronze tablet, 3½ ins. diam., embedded in concrete form, 7 ins. square, 5 ins. above ground, marked Elevation 296 Feet TR 45 1934.

Raise a mound of stone, 3 ft. base, 2 ft. high, W. of cor.

No evidence remains of the original bearing trees.

Land, broken bench or mesa.
Soil, rocky and gravelly, 2nd. rate.
Scattered paloverde and ironwood in washes.

N.89°52'W., bet. secs. 6 and 7.

Over open bench land.

15.00 Desc. 20 ft., leaving mesa land, bearing NE. and SW.

16.00 Enter broad flat wash, draining S.60°W. Enter scattered growth of ironwood and paloverde.

40.04 Point for ¼ sec. cor. of secs. 6 and 7, determined from the original bearing tree,

A paloverde, 12 ins. diam., dead, and fallen, bears S.34°E., 70 lks. dist., marked ¼ S BT

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

¼ S 6
S 7

1946

from which

An ironwood, 14 ins. diam., bears S.80½°E., 212 lks. dist., marked ¼ S7 BT

An ironwood, 15 ins. diam., bears N.46°W., 393 lks. dist., marked ¼ S6 BT

Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.

S.89°24'W., beginning new measurement.

Continue over wash bottom, draining SW. Descend very gradually.

37.80 True point for the cor. of secs. 1, 6, 7 and 12, on the W. bdy. of the Tp., S.0° 01'W., 0.50 chs. dist., from the 1915 resurvey witness corner monument.

Resurvey of Part of the West Boundary of T.5 S., R.21 W.

Chains

Land, Nearly level.
Soil, gravelly, 2nd. rate.
Scattered paloverde, ironwood and greasewood.

Amendment of the resurvey of the west boundary of sec. 6,
T.5 S., R.21 W., as executed by Wm. B. Kimmel in 1915,
establishing thereon the $\frac{1}{4}$ sec. cor. of sec. 1, T.5 S.,
T.22 W.

.....
true
From point for cor. of secs. 1, 6, 7, and 12.

N.0°01'E., bet. secs. 1 and 6.

Over wash area, draining SW., through scattered under-
growth.

0.50 The witness corner monument, an iron post, 2 ins. diam.,
firmly set, 11 ins. above ground, marked and witnessed as
described in the 1915 resurvey record.

10.75 Leave wash area, course SW. Asc. gradually over broken
land.

31.70 Wash, 2.50 chs. wide, course S.60°W.

37.00 Enter broken bad-land formation; continue general ascent.

39.49 The $\frac{1}{4}$ sec. cor. of sec. 6 only, evidenced by the original
monument, a rhyolite stone, 18 x 12 x 5 ins., firmly set
in the ground, illegibly marked; and witnessed as describ-
ed in the 1915 resurvey record.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 8 ins. in the
ground, to bedrock, and in a mound of stone, 4 ft. base,
26 ins. high, with brass cap mkd.

$\frac{1}{4}$
| S 6
1946

Bury the old corner stone alongside iron post.

N.0°08'W., beginning new measurement.

Continue over broken, bad-land formation; ascending
gradually.

0.46 Point for $\frac{1}{4}$ sec. cor. of sec. 1 only, mid-point on the E.
bdy. of sec. 1.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the
ground, to rock, and in a mound of stone, $3\frac{1}{2}$ ft. base, to
top, with brass cap mkd.

$\frac{1}{4}$
| S 1
1946

Resurvey of Part of the West Boundary of T.5 S., R.21 W.

Chains

20.00 Over mesa land, bearing NE. and SW.

40.41 The cor. of Ts. 4 & 5 S., Rs. 21 & 22 W., marked by the original monument, a lava stone, 17 x 8 x 8 ins., firmly set in the ground, marked with 6 grooves on the four sides and witnessed as described in the 1915 resurvey record.

At the corner point

Set an iron post, 3 ft. long, 3 ins. diam., 32 ins. in the ground, with brass cap mkd.

T4S	
R22W	R21W
S 36	S 31
S 1	
S 6	
T5S	

1946

Bury the old corner stone alongside iron post.

Rebuild the stone mound to 4 ft. base, 2 ft. high, S. of cor.

Land, washed and guttered mesa.
Soil, gravelly and rocky, 3rd. rate.
Scattered paloverde and ironwood; mesquite and cacti.

T.4 S., R.22 W.

.....

The Imperial National Wildlife Refuge embraces sections 31 to 35 inclusive.

The survey of this township having been executed by Wm. B. Kimmel, in 1915, and regulation iron post corner monuments established therein, retracement procedure was limited to a determination of the physical status of the corner monuments defining the boundaries of the Refuge.

The direction and lengths of all lines retraced conformed to the survey record thereof, and all corner monuments were found in a sound and secure condition.

T.4 S., R.23 W.
Dependent Resurvey

.....

T.4 S., R.23 W., was partially surveyed by M. Santee, in 1881. The fractional west boundary was resurveyed by Wm. B. Kimmel in 1915.

The cor. of secs. 25, 30, 31 and 36, on the E. bdy. of the Tp., is marked by the original monument, a schist stone, 18 x 9 x 5 ins., firmly supported in a mound of stone 3 ft. base, 1½ ft. high, marked with 1 notch on the S. and 5 notches on the N. edges.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 8 ins. in the ground, to bedrock, and in a mound of stone, 4 ft. base,

Dependent Resurvey, T.4 S., R.23 W.

Chains

to top, with brass cap mkd.

T4S
R23W R22W
S 25 | S 30
S 36 | S 31

1946

Deposit the old corner stone at base of iron post.

S.89°40'W., bet. secs. 25 and 36.

Over broken, mountainous land. Asc. 40 ft. along S. slope.

6.00 Spur, slopes S.20°W., from N.60°E. Desc. 280 ft. over W. slope.

14.30 Ravine, course S. Asc. 185 ft. over SE. slope.

22.00 Spur, slopes S.10°W. Desc. 280 ft.

32.30 Enter wash, course S.20°W.

36.00 Leave wash; asc. 50 ft. over SE. slope.

39.53 The $\frac{1}{4}$ sec. cor. of secs. 25 and 36, marked by the original monument, a schist stone, 13 x 9 x 5 ins., supported in a mound of stone, 2 ft. base, 1 ft. high, marked $\frac{1}{4}$ on the N. face. This cor. is changed to a $\frac{1}{4}$ sec. cor. of sec. 36 only.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$ S 36

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 2 ft. base, 1 $\frac{1}{2}$ ft. high, S. of cor.

S.89°58'W., beginning new measurement.

Continue ascent 40 ft. over SE. slope.

0.47 Point for the $\frac{1}{4}$ sec. cor. of sec. 25 only, at mid-point on the S. bdy. of sec. 25.

Set an iron post, 3 ft. long, 1 in. diam., 33 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$ S 25

1946

Raise a mound of stone, 2 ft. base, 2 ft. high, N. of cor.

3.00 Point of spur, slopes S. Desc. 70 ft.

7.90 Ravine, course S. Asc. 175 ft. over SE. slope.

Dependent Resurvey, T.4 S., R.23 W.

Chains	
16.50	Spur, slopes S.15°W. Desc. 140 ft.
23.75	Ravine, course irregularly S. to SE. Asc. 90 ft. over NE. slope.
27.00	Spur, slopes SE. Desc. 100 ft.
31.50	Ravine, course SE. Asc. 130 ft. over NE. slope.
39.00	Sharp spur, slopes S.70°E. Continue ascent over SE. slope.
39.67	The cor. of secs. 25, 26, 35 and 36, marked by the original monument, a shale stone, 18 x 10 x 10 ins. marked with 1 notch on the S. edge; alongside of which is a Bureau of Reclamation regulation iron post monument, 2 ins. diam. firmly set, 16 ins. above ground, properly marked on brass cap. This corner is changed to a corner of secs. 35 and 36 only.
	Alter markings on brass cap to read
	T4S R23W S 35 S 36 BLM 1946 1935
	Raise a mound of stone around post, 3 ft. base, 1 ft. high.
	Corner is on a SE. shale slope, near base of small bluff, visible from the S. and E. only.
	Land, broken mountains. Soil, rock, 4th. rate. Scattered paloverde and ironwood along ravines.

	S.89°48'W., on the N. bdy. of sec. 35.
	Over broken, mountainous land. Asc. slightly, over SE. slope, along base of small bluff, facing south, near apex of ridge.
0.80	Point for cor. of secs. 25 and 26.
	Set an iron post, 3 ft. long, 2 ins. diam., 28 ins. in the ground, with brass cap mkd.
	T4S R23W S 26 S 25 S 35 1946
	Raise a mound of stone, 2 ft. base, 1½ ft. high, N. of cor.
1.00	Spur, extends S.20°W. Desc. 90 ft.
10.00	Wash, 20 lks. wide, course S. Asc. 85 ft.
17.50	Spur, slopes S. Desc. 100 ft.
34.30	Wash, 30 lks. wide, in ravine, course irregularly S. Continue along gradual S. slope.
40.68	Point for ¼ sec. cor. of sec. 26 only, at midpoint on the

BCOR 4333

Dependent Resurvey, T4S., R.23 W.

Chains

S. bdy. of sec. 26.

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

1/4 S 26

1946

Raise a mound of stone, 3 ft. base, 1 1/2 ft. high, N. of cor.

40.82 The 1/4 sec. cor. of secs. 26 and 35, marked by a Bureau of Reclamation regulation iron post, 1 in. diam., firmly set, 10 ins. above ground, properly marked on brass cap. Alongside of post is the original stone monument, a volcanic stone, 12 x 6 x 3 ins., mkd. 1/4 on one face. This corner is changed to a 1/4 sec. cor. of sec. 35 only.

Alter markings on brass cap to read

1/4 S 35

BLM
1946
1935

Raise a mound of stone, 2 ft. base, 1 1/2 ft. high, S. of cor.

S.89°21'W., beginning new measurement.

Continue over broken land.

3.00 Wash, 10 lks. wide, drains S.75°W.

10.00 Wash, 15 lks. wide, course S.20°W.

21.00 Gully, course S.15°E. Asc. 100 ft.

27.00 Spur, slopes S. Desc. 70 ft.

35.50 Ravine, course S. Asc. 70 ft.

38.00 Spur. slopes S. Desc. over S. slope, near base of small rocky peak.

39.74 The cor. of secs. 26, 27, 34 and 35, marked by a Bureau of Reclamation iron post monument, 2 ins. diam., firmly set, 16 ins. above ground, properly marked on brass cap. Alongside of iron post is the original monument, a lava stone, 14 x 6 x 5 ins., marked with 1 notch on the S. and 2 notches on the E. faces.

Add markings on brass cap to read

T4S R23W

S 27 | S 26

S 34 | S 35

BLM
1946
1935

Raise a mound of stone around post, 3 ft. base, 16 ins. high.

Dependent Resurvey, T.4 S., R.23 W.

D. 111 111

Chains

Land, broken mountains.
Soil, rock and gravel, 3rd. and 4th. rate.
Scattered paloverde, ironwood, catsclaw and greasewood
along washes.

N.89°16'W., bet. secs. 27 and 34.

Over broken, mountainous land.

Desc. 80 ft. over SW. slope.

- 6.30 Ravine, course S.20°W. Asc. 50 ft. over E. slope.
10.60 Small spur, slopes S.20°W. Desc. gradually.
22.00 Wash, 10 lks. wide, course S.
32.00 Wash, course SE. Asc. 170 ft. over SE. slope.
40.24 The $\frac{1}{4}$ sec. cor. of secs. 27 and 34, marked by a Bureau of
Reclamation regulation iron post, 1 in. diam., firmly set,
8 ins. above ground, properly marked on brass cap.

Additionally mark brass cap to read

$$\frac{1}{4} \begin{array}{l} S 27 \\ S 34 \\ BLM \\ 1946 \\ 19 \end{array}$$

Raise a mound of stone, 2 ft. base, $1\frac{1}{2}$ ft. high, N.
of cor.

N.89°15'W., beginning new measurement.

Asc. 70 ft.

- 0.85 Top of sharp rock pinnacle.
Desc. 265 ft. over broken W. slope.
18.00 Ravine, course S. Asc. 150 ft.
31.00 Summit of prominent, flat topped butte, bears SW; the
terminus of a low ridge from the NE.
Desc. 180 ft. over an increasing NW. slope.
40.20 The cor. of secs. 27, 28, 33 and 34, marked by a Bureau
of Reclamation iron post, 2 ins. diam., firmly set, 18
ins. above ground, and in a mound of stone, 3 ft. base,
18 ins. high. Alongside of iron post is the original cor.
monument, a volcanic stone, 16 x 13 x 8 ins., marked with
3 notches on one edge, and 1 notch on an adjacent edge.

Additionally mark brass cap to read

$$\begin{array}{l} T4S R23W \\ S 28 | S 27 \\ S 33 | S 34 \\ BLM \\ 1946 \\ 1935 \end{array}$$

Dependent Resurvey, T.4 S., R.23 W.

Chains

Land, rough and broken.
Soil, rock, 4th. rate.
Scattered paloverde and ironwood in washes.

N.0°02'W., bet. secs. 27 and 28.

Over broken and mountainous land.

- 0.30 Drain, course W.
- 1.80 Small spur, slopes W. Desc. 50 ft.
- 5.00 Ravine, course SW. Asc. 80 ft.
- 9.00 Spur, slopes S.75°W. Desc. 85 ft.
- 14.70 Wash, course W. Asc. 75 ft.
- 18.80 Small spur, slopes W. Desc. 55 ft.
- 19.86 The S. 1/16 sec. cor. of secs. 27 and 28, marked by a Bureau of Reclamation iron post, 1 in. diam., firmly set, 14 ins. above ground, with brass cap mkd.

S 1/16
S 28 | S 27
1935

- 20.35 Ravine, course S.85°W. Asc. 115 ft.
- 23.00 Top of rocky knoll. Desc. 115 ft.
- 29.40 Wash, 1 ch. wide, course SW. Asc. 40 ft.
- 33.40 Spur, slopes SW. Desc. 30 ft.
- 38.15 Gully, course W.
- 39.78 The 1/4 sec. cor. of secs. 27 and 28, marked by a Bureau of Reclamation iron post, 1 in. diam., firmly set, 8 ins. above ground. Alongside of iron post is the original monument, a volcanic stone, 16 x 12 x 6 ins., mkd. 1/4 on the W. face.

Additionally mark brass cap to read

1/4
S 28 | S 27
BLM
1946
1935

Rebuild the stone mound, 2 ft. base, 2 ft. high, W. of cor.

N.0°22'W., beginning new measurement.

- 2.50 Wash, course S.75°W., and across washed bottom land.
- 8.00 Leave wash; asc. 80 ft.
- 12.40 Sharp spur, slopes S.60°W.

Dependent. Resurvey, T.4 S., R.23 W.

Chains	
13.00	Ravine, 50 ft. deep, course S.80°W.
16.00	Small spur, bears W. Desc. 60 ft.
20.10	Ravine, course S.70°W. Asc. 140 ft. over SE. slope.
28.50	East side of rocky peak; apex of low spur from NE. Desc. 110 ft.
31.50	Wash, 60 lks. wide, course SW.
34.10	Ravine, course SW. Asc. 50 ft.
35.85	Sharp gravel spur, slopes E. Desc. 25 ft.
37.70	Gully, course SE. Asc. 35 ft. over SE. slope.
38.94	The cor. of secs. 21, 22, 27 and 28, marked by a Bureau of Reclamation iron post, 2 ins. diam., firmly set, 8 ins. above ground. Alongside of iron post is the original cor. monument, a granite stone, 14 x 6 x 6 ins., marked with 2 grooves on the S. and 4 grooves on the E. faces.
	Additionally mark brass cap to read
	T4S R23W S 21 S 22 S 28 S 27 BLM 1946 1935
	Raise a mound of stone, 2½ ft. base, 1½ ft. high, W. of cor.
	Corner monument is situated on SE. slope of gravel bench, about 2 chs. distant from top.
	Land, broken, rocky hills. Soil, rock, 4th. rate. Scattered greasewood, paloverde and cacti.

	N.0°16'W., bet. secs. 21 and 22.
	Over open, broken mesa land.
	Asc. 20 ft. over SE. slope.
2.50	Top of ascent, bears NE. and SW.
6.50	Wash, 20 lks. wide, course S.70°W.
20.00	Wash, 2.00 chs. wide, course S.70°W.
28.20	Wash, 20 lks. wide, course W.
40.10	The ¼ sec. cor. of secs. 21 and 22, marked by the original monument, a lava stone, 16 x 10 x 3 ins., firmly set in a mound of earth and stone, 2 ft. base, 1 ft. high, mkd. ¼ on the W. face.
	At the corner point
	Set an iron post, .3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

Dependent Resurvey, T.4 S., R.23 W.

Chains

$$\begin{array}{c} \frac{1}{4} \\ \text{S } 21 | \text{S } 22 \\ \hline 1946 \end{array}$$

Bury the old corner stone alongside iron post.

Raise a mound of stone, 2 ft. base, 2 ft. high, W. of cor.

N.0°04'W., beginning new measurement.

Continue over broken bench land.

20.00 Wash, 1.20 chs. wide, course S.60°W.

25.00 Wash, 20 lks. wide, course SW.

40.14 The cor. of secs. 15, 16, 21 and 22, marked by the original monument, a lava stone 20 x 12 x 10 ins. firmly set in a mound of stone, 4 ft. base, 1 ft. high, marked with 3 notches on the S. and E. faces, from which

An iron-wood, 10 ins. diam., bears S.42½°W., 134 lks. dist., mkd. TIVS RII III W SXXI BT

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 16 ins. in the ground, to bedrock, and in a mound of stone, 4 ft. base, 1½ ft. high, with brass cap mkd.

$$\begin{array}{c} \text{T4S R23W} \\ \text{S } 16 | \text{S } 15 \\ \hline \text{S } 21 | \text{S } 22 \end{array}$$

1946

Bury the old corner stone alongside iron post.

Corner monument is situated on east side of wash, draining SW.

Land, broken bench or mesa, draining SW.
Soil, gravelly and rocky, 3rd. rate.
Scattered ironwood and paloverde in washes.

S.89°52'W., bet. secs. 16 and 21.

Over broken mesa land.

0.15 Wash, 25 lks. wide, course SW.

4.20 Wash, 50 lks. wide, course SW.

10.00 Asc. gradually increasing SE. slope, 125 ft.

18.20 South slope of butte; desc. 120 ft. over W. slope.

25.00 Enter rolling hills.

30.30 Small spur, slopes S.

39.00 Wash, 60 lks. wide, course SW., and across washed bottom land.

Dependent Resurvey, T.4 S., R.23 W.

Chains

39.60 The $\frac{1}{4}$ sec. cor. of secs. 16 and 21, marked by the original monument, a dilapidated mound of stone and gravel, with granite stone, 20 x 6 x 5 ins. marked $\frac{1}{4}$ floating alongside.

In center of old mound, re-set granite stone, 14 ins. in the ground, and marked cross + on top, from which the original bearing trees

An ironwood, fallen, 5 ins. diam., bears N.14°E., 36 lks. dist., mkd. $\frac{1}{4}$ S BT

An ironwood, 8 ins. diam., bears S.20°E., 95 lks. dist., mkd. $\frac{1}{4}$ S BT

This monument is on west side of granite boulder, near cut channel of wash, from NE. to S., and is subject to destruction upon any flash flood that should occur.

At a point S.83°50'W., 62 lks. dist.,

Set an iron post, 3 ft. long, 1 in. diam., on surface rock, in a mound of stone, 5 ft. base, 3 ft. high, for witness $\frac{1}{4}$ sec. cor., with brass cap mkd.

$$\frac{1}{4} \begin{array}{l} \text{S } 16 \\ \text{S } 21 \end{array} \text{WC}$$

1946

Thence from $\frac{1}{4}$ sec. cor.

S.89°43'W., beginning new measurement.

Across wash channel, course S. from NE.

0.50 Leave wash; asc. 45 ft.

2.00 Top of slope, continue over rolling land..

7.20 Wash, 20 lks. wide, course SW.

22.00 Enter wash, course SW.

27.00 Leave wash. Asc. 120 ft. over E. slope.

31.60 Across S. slope of hill; desc. 110 ft. over W. slope.

39.10 Wash, 20 lks. wide, course S.15°W. Asc. 30 ft.

40.62 The cor. of secs. 16, 17, 20 and 21, marked by the original monument, a lava stone, 14 x 8 x 7 ins., marked with 4 notches on the E. and 3 notches on the S. edges, firmly set in a mound of stone, 2 ft. base, 1 ft. high.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 30 ins. in the ground, with brass cap mkd.

$$\begin{array}{l} \text{T4S R23W} \\ \text{S } 17 \mid \text{S } 16 \\ \text{S } 20 \mid \text{S } 21 \end{array}$$

1946

Bury the old corner stone alongside iron post.

Raise a mound of stone, 2 ft. base, 2 ft. high, W. of cor.

Dependent Resurvey, T.4 S., R.23 W.

Chains

Land, rolling mesa and hilly.
Soil, rocky, 3rd. rate.
Scattered paloverde, ironwood and greasewood along washes.

N. 89° 56' W., bet. secs. 17 and 20.

Over low broken hills, through scattering timber; asc. 15 ft. over an E. slope.

0.80 Top of ascent, desc. 50 ft.

10.85 Wash, 30 lks. wide, course S. 25° W.

15.25 Desc, 40 ft. over NW. slope into wash bottom.

24.25 Desert road in wash bottom, course S. 20° W.

31.10 Flat wash, course S. 20° W.; asc. 60 ft.

36.10 Top of ascent.

40.22 The $\frac{1}{4}$ sec. cor. of secs. 17 and 20, marked by a lava stone, 12x6x6 ins., mkd. $\frac{1}{4}$ on N. face, firmly set in a mound of stone, 3 ft. base, 1 ft. high.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$ $\frac{S\ 17}{S\ 20}$
1946

Raise a mound of stone, 2 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor. and bury the old stone alongside the iron post.

West, beginning new measurement.

Desc. 40 ft. over a NW. slope.

3.45 Wash, 1 ch. wide, course S. 60° W.

16.70 Wash, 1.30 chs. wide, course SW.; asc. 30 ft.

18.10 Top of ascent thence over rolling land.

20.80 Desc. 25 ft. over a NW. slope.

25.30 Wash, 15 lks. wide, course S. 30° W.; asc. 50 ft. over a SE. slope.

30.05 Low hill, bears NE. and SW.; desc. 70 ft. over a NW. slope.

33.50 Enter flat wash bottom, drains SW.

39.96 The cor. of secs. 17, 18, 19, and 20, marked by a Bureau of Reclamation iron post, 2 ins. diam., firmly set, 10 ins. above ground. Alongside the iron post is the original corner monument, a granite stone, 12x6x6 ins., mkd. with 5 grooves on the E. and 3 grooves on the S. faces, from which

An ironwood, 10 ins. diam., bears S. 10° E., 118 lks. dist., mkd. T4S R23W S20 BT.

Dependent Resurvey, T. 4 S., R. 23 W.

ECCM

Chains.

Additionally mark the brass cap to read

T4S R23W	
S 18	S 17
S 19	S 20
BLM	
1946	
1935	

Raise a mound of stone 3 ft. base, 2 ft. high,
W. of cor. and bury the old stone alongside the
iron post.

The cor. is on the west side of a wash.

Land, low broken hills. Soil, sandy to rocky, 3 rd. rate.
Timber, paloverde, ironwood, and mesquite; undergrowth,
greasewood and cactuses.

N. 0° 03' W., bet. secs. 17 and 18.

Over bottom of wash course SW. from N.

- 7.50 Leave wash bottom; asc. 30 ft. over a SE. slope.
- 10.15 Short spur, slopes SW.; asc. 117 ft. over a broken S.
slope.
- 29.25 Spur, slopes W.; desc. 46 ft. over a N. slope.
- 36.20 Wash, 40 lks. wide, course SW.; asc. 12 ft. over a gravel
bench.
- 40.04 The $\frac{1}{4}$ sec. cor. of secs. 17 and 18, marked by a lava
stone, 14x8x8 ins., mkd. $\frac{1}{4}$ on W. face, set upright in a
mound of stone, 3 ft. base, 2 ft. high.

At the corner point

Set an iron post, 1 in. diam., 3 ft. long, 10 ins. in the
ground and in a mound of stone, 4 ft. base, to top, with
brass cap mkd.

S 18	†	S 17
1946		

Bury the old stone alongside the iron post.

North, beginning new measurement.

Over gravel bench land, through scattering timber along
the washes.

- 5.00 Wash, 25 lks. wide, course SE. & S., from NW.; asc. 236
ft. over rocky spurs and precipitous S. slope.
- 21.50 Ridge, bears E. and W., with perpendicular S. face; desc.
166 ft. over broken N. slope.
- 39.80 The cor. of secs. 7, 8, 17, and 18, marked by the origin-
al monument, a lava stone, 14x10x8 ins., mkd. with 5
grooves on the E. and 4 grooves on the S. faces, set
upright in a mound of stone, 3 ft. base, 1 ft. high.

Dependent Resurvey, T. 4 S., R. 23 W.

Chains.

At the corner point

Set an iron post, 3 ft. long, 2 ins. diam., 20 ins. in the ground, and in a mound of stone, 3 ft. base, to top, with brass cap mkd.

$$\begin{array}{r|l} T4S R23W & \\ S 7 | S 8 & \\ \hline S 18 | S 17 & \\ \hline & 1946 \end{array}$$

Bury the old stone alongside the iron post.

The cor. is on the S. edge of a small wash, course SW.

Land, mountainous and bench.
Soil, gravelly to rocky and broken, 3rd. and 4th. rates.
Timber, paloverde, ironwood, and mesquite; undergrowth, greasewood and cactuses.

N. 89° 59' W., bet. secs. 7 and 18.

Over broken land, through scattering timber along the washes.

- 0.45 Wash, course SW.; asc. 25 ft. over an E. slope.
- 4.00 Spur, slopes S.; desc. 20 ft. over broken W. slope.
- 6.80 Wash, course N.; asc. 45 ft. over an E. slope.
- 9.00 Small peak on spur, slopes N.; desc. 75 ft. over broken NW. slope.
- 19.20 Wash, 10 lks. wide, course N.; asc. 40 ft. along a broken N. slope.
- 30.40 Top of cliff, 65 ft. high, bears N. and S.; desc.
- 31.80 Wash, 1 ch. wide, course SW.; asc. 65 ft. over an E. slope
- 38.40 Spur, slopes SW.; desc. 22 ft. over a NW. slope.
- 39.50 The $\frac{1}{4}$ sec. cor. of secs. 7 and 18, marked by the original monument, a lava stone, 14x12x12 ins., mkd. $\frac{1}{4}$ on the N. face, set in a mound of stone, 3 ft. base, 1 ft. high.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 18 ins. in the ground and in a mound of stone, 4 ft. base, to top, with brass cap mkd.

$$\begin{array}{r|l} \frac{1}{4} S 7 & \\ S 18 & \\ \hline & 1946 \end{array}$$

Bury the old stone alongside the iron post.

S. 89° 22' W., beginning new measurement.

Desc. 25 ft. over a W. slope.

- 0.60 Wash, 25 lks. wide, course S.; asc. 95 ft. over a broken E. slope.

Dependent Resurvey, T. 4 S., R. 23 W.

Chains.

- 4.40 Small peak on spur, slopes N.; desc. 88 ft. over a broken W. slope.
- 14.50 Wash, 50 lks. wide, course SW.; continue over a S. slope.
- 21.35 Wash, in bend, course SW. from S. 80° E.; thence over a broken S. slope.
- 40.82 The cor. of secs. 7, 12, 13, and 18 on the W. bdy. of the Tp., marked by an iron post, 3 ins. diam., 12 ins. above ground, firmly set, marked as described in the 1915 resurvey record, and witnessed by a mound of stone to the west.

Land, broken mountains.
Soil, rocky, 4th. rate.
Timber, paloverde and ironwood; undergrowth, greasewood, and cactuses.

Survey of Part of the Subdivision of T.4 S., R.23 W.

- From the cor. of secs. 21, 22, 27, and 28,
N. 89° 44' E., on governing section line, bet. secs. 22 and 27.
- Through scattering desert growth, desc. 17 ft. over E. slope of a gravel spur.
- 1.15 Small wash, course S.; asc. 20 ft.
- 4.90 Spur, slopes S.; desc. 30 ft. over an E. slope, and cut-bank.
- 6.85 Wash, course SW.; asc. 30 ft. over broken W. slope.
- 8.50 Razorback spur, slopes N.; desc. 20 ft. over steep E. slope.
- 9.80 Wash, 30 lks. wide, course NW. from NE.; asc. 63 ft. over a broken W. slope.
- 15.70 Spur, slopes SW.; desc. 50 ft. over a broken E. slope.
- 19.50 Wash, 60 lks. wide, course SW.; asc. 83 ft. over W. slope.
- 25.60 Short spur, slopes N.; desc. 48 ft. over rocky NE. slope.
- 29.45 Wash, 60 lks. wide, course NW.; Asc. 20 ft.
- 33.75 Same wash, 50 lks. wide, course SW.; asc. 46 ft. over a broken NW. slope.
- 40.22 Point for the 4 sec. cor. of secs. 22 and 27.
- Set an iron post, 3 ft. long, 1 in. diam., 28 ins. in the ground, with brass cap mkd.

$\frac{1}{4}$ $\frac{S-22}{S-27}$
1946

Raise a mound of stone, 3 ft. base, 2 ft. high,
N. of cor.

Survey of Part of the Subdivision of T. 4 S., R. 23 W.

Chains.							
45.35	Desc. 30 ft. over rocky E. slope.						
46.95	Wash, 50 lks. wide, course N. for 3 chs. then SW.						
49.50	Enter Wash, course SW. from E.						
52.15	Leave wash, 30 lks. wide, course W. from						
55.15	Wash, 25 lks. wide, course SW.; asc. 95 ft. over broken rocky W. slope.						
62.10	Short rocky spur, slopes S.; asc. 12 ft.						
65.70	Rocky spur, slopes S.; desc. 52 ft. over an E. slope.						
70.70	Foot of slope, continue over a gravel bench.						
73.05	Wash, 30 lks. wide, course S.; asc. 25 ft.						
75.70	Top of ascent; desc. 8 ft.						
77.05	Wash, 15 lks. wide, course SW.; asc. 45 ft. over a W. slope.						
80.44	Point for the cor. of secs. 22, 23, 26, and 27.						
	Set an iron post, 3 ft. long, 2 ins. diam., 10 ins. in the ground and in a mound of stone, 4 ft. base, to top, with brass cap mkd.						
	<table style="margin: auto;"> <tr> <td colspan="2">T4S R23W</td> </tr> <tr> <td>S 22</td> <td>S 23</td> </tr> <tr> <td>S 27</td> <td>S 26</td> </tr> </table> <p>1946</p>	T4S R23W		S 22	S 23	S 27	S 26
T4S R23W							
S 22	S 23						
S 27	S 26						
	Land, broken rocky hills. Soil, gravelly and rocky, 3rd. and 4th. rates. Timber, paloverde and ironwood; undergrowth, greasewood, ocotillo, and cactuses.						

	From the cor. of secs. 26, 27, 34, and 35, N. 0° 12' W., bet. secs. 26 and 27. Asc. 18 ft. over steep broken SW. slope.						
1.15	W. slope of peak on spur, slopes W.; desc. 45 ft. over a rocky N. slope.						
3.00	Gully, 10 lks. wide, course NW.; asc. 16 ft. over S. slope.						
4.20	Spur, slopes W.; desc. 11 ft. over N. slope.						
6.70	Small spur, slopes W.						
7.10	Wash, 10 lks. wide, course W.; asc. 40 ft. along a broken W. slope.						
21.55	Long spur, slopes W.; desc. 60 ft. over N. slope.						
29.00	Wash, 40 lks. wide, course SW.; asc. 75 ft. over S. slope.						
33.00	Spur, slopes SE.; desc. 58 ft. over a N. slope.						
37.60	Wash, 15 lks. wide, course SE.; asc. 55 ft. over S. slope.						

Survey of Part of the Subdivision of T.4 S., R.23 W.

Chains	
40.01	Point for $\frac{1}{4}$ sec. cor. of secs. 26 and 27. Set an iron post, 3 ft. long, 1 in. diam., 12 ins. in the ground, to bedrock, and in a mound of stone 4 ft. base, to top, with brass cap mkd. $\frac{1}{4}$ S 27 S 26 1946 Asc. 5 ft. over S. slope.
40.20	Low peak, on small divide, bearing NE. and SW. Desc. 50 ft. over N. slope.
45.50	Wash, 20 lks. wide, course W. Asc. 40 ft.
49.50	Point of spur, from NE., slopes to W. Desc. 20 ft. over W. slope.
50.35	Wash, in shallow draw, course SW. Asc. 115 ft. over S. slope.
55.10	Rocky ridge, bears NE. and SW. Desc. 160 ft. over broken N. to NW. slope.
66.35	Wash, 45 lks. wide, course SW. Asc. 60 ft.
70.50	Short spur, slopes E. Desc. 15 ft.
73.15	Wash, 15 lks. wide, course SE. Asc. 85 ft. over SW. slope.
78.15	Spur, low divide, slopes SW. Desc. 15 ft. along W. slope.
80.02	The cor. of secs. 22, 23, 26 and 27. Land, broken and hilly. Soil, rocky, 3rd. and 4th. rate. Scattered greasewood and cacti, cats-claw and a few palo-verde. ----- N. 89°44'E., on governing section line, bet. secs. 23 and 26. Asc. 20 ft. over NW. slope.
1.00	Low divide, slopes SW. Desc. 55 ft. over E. slope.
4.00	Wash, 10 lks. wide, course S. Asc. 35 ft.
7.40	Small spur, slopes S. Desc. 25 ft. over E. slope.
10.90	Wash, 20 lks. wide, course S. Asc. 75 ft. over W. slope.
16.45	Spur, slopes S. Desc. 20 ft. over S. slope.
20.00	Change of slope to SW. and W., asc. 115 ft.
29.70	Spur, slopes S. Desc. 30 ft. over SE. slope.
34.60	Wash, 20 lks. wide, course S. 15° W. Asc. 120 ft. over steep rocky W. slope.
37.40	Ridge, slopes steeply to S. from top of mountain; continue along rough S. slope.

Survey of Part of the Subdivision of T.4 S., R.23 W.

Chains	
38.50	Desc. 55 ft. over abrupt, rocky E. slope.
40.02	Point for $\frac{1}{4}$ sec. cor. of secs. 23 and 26. Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd. $\frac{1}{4} \begin{array}{l} S 23 \\ S 26 \end{array}$ 1946. Raise a mound of stone, 3 ft. base, 2 ft. high, N. of cor. Corner is situated in head of drain, course S. Asc. 40 ft. over SW. slope.
45.35	Spur, slopes S.35°E. Desc. 110 ft. over E. slope.
51.00	Drain, course S.15°E., Continue descent 130 ft. over a rolling SE. slope.
68.20	Wash, 60 lks. wide, course SE. Asc. 45 ft. over SW. slope.
71.00	Low spur, from NW., slopes S. Desc. 25 ft.
71.80	Wash, 50 lks. wide, course S.5°W.
75.15	Wash, 50 lks. wide, course SW. Asc. 140 ft. over W. slope.
80.04	Point for cor. of secs. 23, 24, 25 and 26. Set an iron post, 3 ft. long, 2 ins. diam., 16 ins. in the ground, and in a mound of stone 4 ft. base, to top, with brass cap mkd. $\begin{array}{cc} T4S & R23W \\ S 23 & S 24 \\ S 26 & S 25 \end{array}$ 1946 Corner is situated near crest of sharp, rocky ridge, bearing N. and S., and is visible from the W. only. Land, mountainous. Soil, rocky, 3rd. and 4th. rate. Scattered paloverde and ironwood along washes; greasewood, cacti and ocotillo.

	From the cor. of secs. 25 and 26. N.0°01'W., bet. secs. 25 and 26. Asc. 10 ft. over S. slope.
0.50	Apex of low rocky peak, on small ridge, from NW. Rocky spurs extend to E. and S. Desc. 85 ft. over N. slope.
3.20	Gully, course E., Asc. 30 ft.
5.00	Short spur, slopes NE. Continue descent 45 ft.
10.25	Gully, course E. Asc. 85 ft. over S. slope.

Survey of Part of the Subdivision of T.4 S., R.23 W.

Chains

- 14.15 Sharp spur, slopes E. Desc. 85 ft. over N. slope.
- 17.30 Wash, 20 lks. wide, course SE. from W. Asc. 105 ft. over S. slope.
- 26.65 Small narrow peak, on rocky spur, extending E. Desc. 45 ft. over N. slope.
- 29.90 Wash, 20 lks. wide, course E. Over rolling land.
- 34.50 Wash, 15 lks. wide, course S.60°E. Asc. 125 ft. over an increasing, rocky S. slope.
- 39.92 Point for $\frac{1}{4}$ sec. cor. of secs. 25 and 26, falls on precipitous S. face of ledgerrock.
- 40.32 Establish a witness $\frac{1}{4}$ sec. cor. of secs. 25 and 26.

Set an iron post, 3 ft. long, 1 in. diam., 4 ins. in crevice of rock, and in a mound of stone 10 ft. base, to top, with brass cap mkd.

$\frac{1}{4}$
 S 26 S 25
 W C
 1946

This monument is situated upon the scarp of rocky spur, sloping precipitously to the SE.

- 40.60 Asc. 25 ft. over an E. slope.
- 44.00 Shallow saddle in shoulder of spur, from W. Smaller sours break to the E. and SE. Desc. 75 ft. over N. slope.
- 45.60 Head of gully, course E. Change of slope to E., desc. 40 ft.
- 52.15 Short bluff spur, from W., Desc. 140 ft. over N. slope.
- 59.75 Wash, 50 lks. wide, in draw, course SE. Asc. 150 ft. over broken SW. slope.
- 68.00 Short rocky spur, slopes SW.
- 70.00 Rocky spur, slopes SW. Desc. 60 ft.
- 72.90 Gulch, course S.60°W. Asc. 130 ft.
- 76.85 Apex of rocky spur, from N., sloping to SE.
- 79.84 The cor. of secs. 23, 24, 25 and 26.

Land, broken and rough mountains.
 Soil, rocky, 4th. rate.
 Scattered greasewood and cacti.

 W. Bdy. of T.4 S., R.23 W.

The fractional west boundary of the Tp., having been resurveyed by Wm. B. Kimmel, in 1915, and regulation iron post corner monuments established thereon, retracement procedure was limited to the W. bdrs. of secs. 6 and 7, defining the boundary of the Refuge. The direction and lengths of these lines conform to the resurvey record, and all corner monuments were found in sound and secure

T.4 S., R.23 W.

Chains

condition.

T.3 S., R.23 W.

The Imperial National Wildlife Refuge boundary is in coincidence with the east boundaries of secs., 6, 7, 18, 19 and 30, and the N. and W. boundaries of sec. 31.

The subdivision of this township having been surveyed, and the fractional west boundary resurveyed, by Wm. B. Kimmel, in 1915, with regulation iron post monuments established at the corner points, retracement procedure was limited to a determination of the physical status of the corner monuments defining the boundary of the Refuge.

The direction and length of all lines retraced conformed to the survey and resurvey record thereof, and all corner monuments were found in a sound and secure condition.

Resurvey of Part of the S. Bdy. of T.2 S., R.23 W.

The S. bdy. of T.2 S., R.23 W., was originally surveyed by John A. Barry in 1902. In 1915, Wm. B. Kimmel retraced the west 3 miles, and resurveyed the west 1/2 mile of the S. bdy. of sec. 31, in connection with his survey of the subdivision of T.2 S., R.23 W.

The 1/4 sec. cor. of sec. 32 only, on the S. bdy. of the Tp. is marked by the original monument, a lava stone, 22 x 8 x 6 ins., firmly set 10 ins. in the ground, marked 1/2 on the N. face, and witnessed by a mound of stone, 2 ft. base, 1 ft. high, to the N.

At the corner point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with brass cap mkd.

1/4 S 32

1946

Rebuild the mound of stone to 3 ft. base, 1 1/2 ft. high, N. of cor., and bury the old stone alongside of iron post.

S. 89° 52' W., along the S. bdy. of sec. 32.

Over slightly broken land, through scattered undergrowth.

Along S. slope of gravel bench.

Resurvey of Part of the S. Bdy. of T.2 S., R.23 W.

Chains

- 3.00 Desc. 25 ft. over SW. slope.
- 5.00 Wash, 15 lks. wide, in shallow coulee, drains NW.
- 15.00 Enter wash, course to west, from NW., bearing a scattered growth of ironwood and paloverde. Desc. gradually.
- 35.52 Point for closing cor. of secs. 5 and 6, T.3 S., R.23 W., from which
- The witness closing cor. of secs. 5 and 6, bears S.0°03'E., 2.80 chs. dist., marked by an iron post, 2 ins. diam., firmly set, marked and witnessed as described in the 1915 survey record.
- 40.05 Point for cor. of secs. 31 and 32 only, at proportionate distance.
- Set an iron post, 3 ft. long, 2 ins. diam., 18 ins. in the ground, and in a mound of stone, 3½ ft. base, to top, with brass cap mkd.
- T2S R23W

S 31 | S 32

S 6'

T3S

1946
- from which
- An original bearing tree: a paloverde, 14 ins. diam. bears S.34½°E., 241 lks. dist., with markings R23W S5 BT legible; remainder of blaze is decayed and partially rotted out.
- Land, marginal bench, and washed bottom.
Scattered ironwood and paloverde and greasewood.
-
- S.89°50'W., along the S. bdy. of sec. 31.
- Along wash, draining S.80°W., through scattered ironwood.
- 28.80 Leave wash, course S.70°W., Asc. 30 ft. over SE. slope of gravel bench.
- 32.20 Top of slope; continue gradual descent over open gravel mesa.
- 35.55 A Bureau of Reclamation regulation iron post monument, 1 in diam., 12 ins. above ground, firmly set, with brass cap mkd.
- ¼ S 6'

1935
- 35.94 U.S.Coast and Geodetic Survey Station 'TOOFER' bears North, 6 lks. dist., a regulation bronze tablet, 4 ins. diam., firmly cemented into a volcanic rock, in place, 30 x 14 ins., 2 ins. above ground, marked
- TOOFER

△

1935
- 39.15 The witness ¼ sec. cor. of sec. 31, only, marked by the

Resurvey of Part of the S. Bdy. of T.2 S., R.23 W.

Chains

original monument, a malpais stone, 16 x 9 x 6 ins., firmly set 10 ins. in the ground, marked $\frac{1}{4}$ WC on the N. face.

At the witness cor. point

Set an iron post, 3 ft. long, 1 in. diam., 30 ins. in the ground, with the old corner stone buried alongside, with brass cap mkd.

WC $\frac{1}{4}$ S 31

1946

Raise a mound of stone, 2 $\frac{1}{2}$ ft. base, 1 $\frac{1}{2}$ ft. high, N. of cor.

39.25 Desc. 15 ft. over steep SW. slope of bench land.

40.07 A Bureau of Reclamation regulation iron post monument, 1 in. diam., firmly set, 14 ins. above ground, with brass cap mkd.

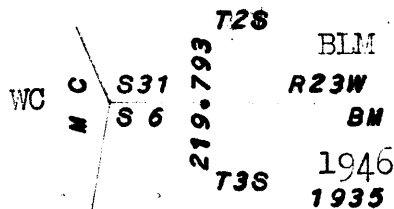
S $\frac{1}{2}$ S 31

1935

Continue descent 18 ft.

41.19 A Bureau of Reclamation bench mark and meander corner, a regulation iron post monument, 2 ins. diam., 14 ins. above ground, firmly set. This corner is changed to a witness meander cor. of secs. 6 and 31.

Additionally mark the brass cap to read



From this point the computed position of the witness meander cor. of fractional secs. 20 and 29, T.11 S., R.22 E., S.B.M., California, on the west margin of the Colorado River, is S.66°30'W., 42.14 chs. dist.,

Descend slightly.

42.00 Over washed bottom land, through dense willow and mesquite.

46.81 No evidence remains of the original meander corner monument noted in the 1915 resurvey.

47.60 Present margin of waters backed up by Imperial Dam in the Colorado River, bearing N.30°E. and S.20°W.

51.49 Record distance, and point for the meander corner of secs. 6 and 31, established in the 1915 resurvey, now under water.

There is no present evidence of large cottonwood trees as noted in the Kimmel record. Swamp growth in the accumulating river silt is limited to small willow and cottonwood averaging only a few inches in diameter.

General Description

B.C. 1905

The surface area embraced within the Refuge Boundary varies from a flat, gullied mesa to rough and precipitous mountains. A small range of broken, detached hills extends northerly through T.6 S., R.21 W. The lower reaches of the Trigo Mountains are encountered through Ts. 3 and 4 S., Rs. 22 and 23 W.

Verdure consists of ironwood and paloverde, limited principally to the dry washes and ravines; there is a scattering of greasewood and several varieties of cacti. The Colorado River is burdened with small willow and cottonwood, and dense patches of tule and arrow-weed where a sufficient silt deposit has formed to present a root hold for such growth. Some mesquite is noted in the near-bottom land adjacent to the present water margin, but that growth originally manifest in the lowlands has now been submerged by the impounded waters of Imperial Reservoir.

The soil is a sandy gravel, of shallow depth and of poor quality; and surface rock predominates throughout the mountainous regions.

Imperial Dam is partly situated in unsurveyed sec. 30, T.6 S., R.21 W., and sec. 31 is partly covered by the impounded waters of Laguna Dam, situated about 4 miles to the south. The Army Engineers maintain a station and encampment along the confined channels of the river below Imperial Dam, and have blocked out an area for future camp utilization in secs. 30 and 31.

A fairly well maintained road leads from State Highway No. 95, in sec. 1, T.7 S., R.21 W., about 12 miles distant, to the old Castle Dome Landing; the terminal portion of which is now submerged in the raised water level of the river. A boat landing, and a small tent camp is maintained at the end of the road in sec. 19, T.5 S., R.21 W. This location is somewhat sketchily patronized by sportsmen during the open hunting season. From here old roadways lead northeast to the Castle Dome district, and to the north and west to Yuma Wash, in T.4 S., R.22 W., where deep sands tend to discourage further progress. The roadway becomes largely impassable, and further access to the north is limited to private boat transportation upon the river.

The fractional subdivision in T.4 S., R.23 W., limited to secs. 26 and 27, covers an area of isolated buttes and low rocky hills, cut by sharp irregular ravines draining south into the Colorado. Nortons Landing, an isolated, early day settlement upon the bottom lands adjacent to a sharp bend in the Colorado River, is long abandoned, and now largely flooded. Only the remains of an old adobe or two evidence the original location. The old roadway from Silent, leading into this locale, in section 29, has largely weathered out of existence, and is determinate in only isolated instances.

50 56
BOOK 4385

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~GENERAL-LAND-OFFICE~~
BUREAU OF LAND MANAGEMENT

FIELD ASSISTANTS

NAMES	CAPACITY
Bert E. Wakeman	Engineering Aide
Elliot Pearson	Engineering Aide
John G. Coverdale	Principal Assistant
C. Albert White	Principal Assistant
Eugene C. Ramstedt	Field Assistant
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August F. Blome	Field Assistant
Howard P. Nelson	Field Assistant
Jack Earle	Field Assistant
George R. Connolly	Field Assistant
Arthur S. Lezin	Field Assistant
Victor F. Odegard	Field Assistant
James R. Caywood	Field Assistant
Robert D. Stevens	Field Assistant
Willaim M. Nauta	Field Assistant

57

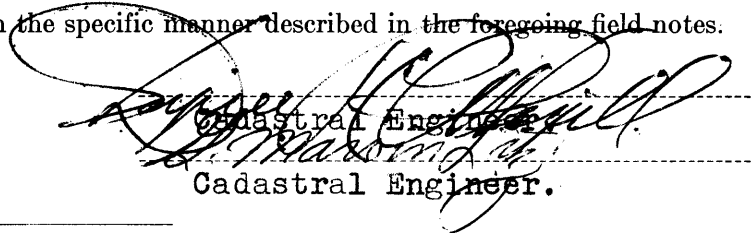
BOOK 4365

51

CERTIFICATE OF SURVEYOR

We, Dupree R. Averill and G. Marvin Litz, HEREBY CERTIFY upon honor that, in pursuance of special instructions bearing date of the first day of November, 1945 received from the ~~district~~ ^{regional} cadastral engineer for Arizona, with assignment instructions dated October 4, 1946, We have surveyed part of the subdivision of T. 6 S., R. 21 W. and T. 4 S., R. 23 W., dependently resurveyed part of the subdivision of T. 4 S., R. 23 W. and T. 5 S., R. 21 W., and First Standard Parallel South, along part of S. bdy. T. 5 S., R. 21 W., and part of S. bdy. of T. 2 S., R. 23 W. of the G. & S.R. 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 said survey has been made in strict conformity with said instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in the specific manner described in the foregoing field notes.

Glendale, California
June 6, 1947



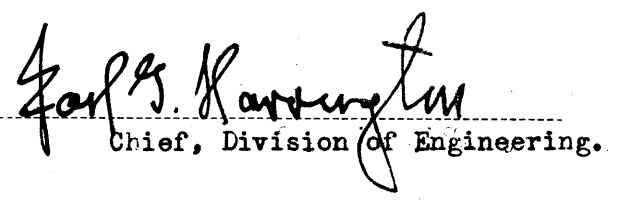
Cadastral Engineer
 Cadastral Engineer.

CERTIFICATE OF APPROVAL

Bureau of Land Management
 Washington, D.C.
 MAR 10 1949

The foregoing field notes of the survey of part of the subdivision of T. 6 S., R. 21 W. and T. 4 S., R. 23 W., dependent resurvey of part of the subdivision of T. 4 S., R. 23 W. and T. 5 S., R. 21 W., and First Standard Parallel South, along part of S. bdy. T. 5 S., R. 21 W., and part of S. bdy. of T. 2 S., R. 23 W.

executed by Dupree R. Averill and G. Marvin Litz, under special instructions dated November 1, 1945, and assignment instructions dated October 4, 1946, having been critically examined, and the necessary corrections made prior to their certification by the engineer, the said field notes, and the survey therein described, are hereby approved.



Chief, Division of Engineering.

CERTIFICATE OF TRANSCRIPT

I CERTIFY that the foregoing transcript of the field notes of the above-described surveys in _____, is a true copy of the original field notes on file in the public survey office.