ORIGINAL

 BOOK 5379

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD NOTES

OF THE

THE DEPENDENT RESURVEY OF

A PORTION OF THE SUBDIVISIONAL LINES AND

A PORTION OF THE ADJUSTED 1906 MEANDERS, AND

A SURVEY OF A PORTION OF THE FIXED AND LIMITING BOUNDARY OF THE LEFT BANK OF THE

ABANDONED CHANNEL OF THE COLORADO RIVER,

TOWNSHIP 16 NORTH, RANGE 21 WEST

Of the Gila and Salt River Meridian,

In the State of Arizona

EXECUTED BY

Clyde J. King, Cadastral Surveyor

Under Special Instructions dated February 6, 1992, approved February 6 1992, which provided for the surveys included under Group Number 740 and assignment instructions dated February 6, 1992.

Survey commenced February 10,1992

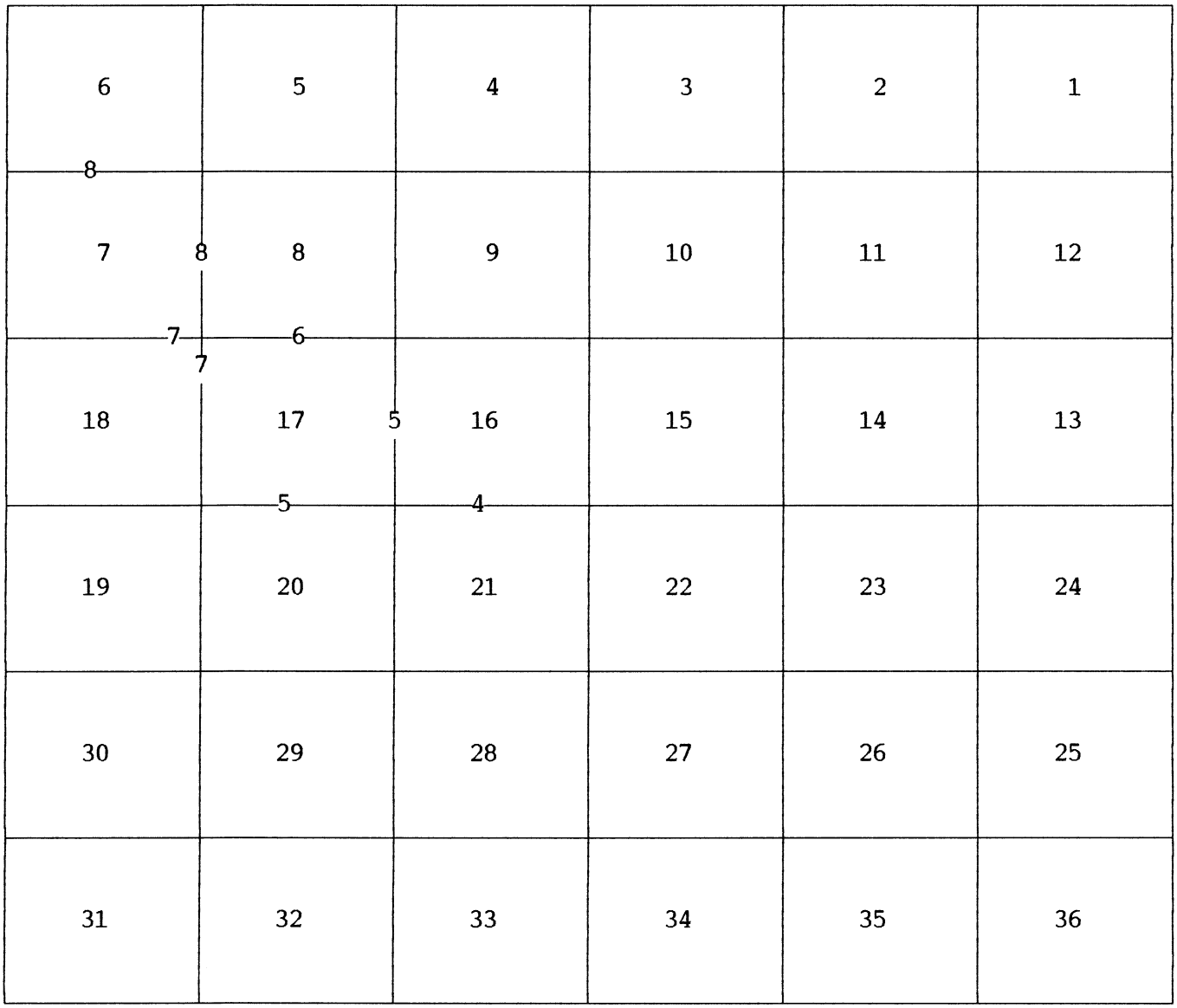
Survey completed November 3, 1992

BOOK 5379

2

INDEX DIAGRAM

TOWNSHIP 16 NORTH, RANGE 21 WEST,



1906 Adjusted meanders pp. 9-10
Fixed and Limiting Bdy. pp. 10-12

BOOK 5379

T. 16 N., R. 21 W., Gila and Salt River Meridian, Arizona

CHAINS

The following field notes are those of the dependent resurvey of a portion of the subdivisional lines and a portion of the adjusted 1906 meanders, and a survey of a portion of the fixed and limiting boundary of the left bank of the abandoned channel of the Colorado River, Township 16 North, Range 21 West, Gila and Salt River Meridian, Arizona.

The boundaries, subdivision lines, and meander lines were surveyed by John J. Fisher in 1905-06. Sections 3 and 10 were resurveyed by Gary D. Johnson in 1989.

When originally surveyed in 1905-06 this township was bounded by the Colorado River to the South and West. The westerly movement of the river created accretion in front of the lands originally returned. The intention of the following survey is to determine the the left bank of the Colorado River prior to channelization. Lack of physical evidence of the prechannelized river resulted in aerial photographs being utilized to determine the left bank of the river prior to channelization.

The survey was executed in accordance with the specifications as set forth in the Manual of Surveying Instructions, 1973, and the Special Instructions dated February 6, 1992, for Group No. 740, Arizona.

Preliminary to the resurvey, the lines of the original survey were retraced and search was made for all corners and other calls of the record. Identified corners were renouncement in their original positions; lost corners were restored and monument at proportionate positions based on the original record. The retirement data were thoroughly verified and only the true line field notes are given herein.

The directions of all lines were determined by direct hour angle observations on the sun, and refer to the true meridian. Distances and angles were measured with a topcon GTS-3B total station instrument.

The geographic position of the cor. of secs. 1, 6, 7, and 12, as determined from a tie made to U.S. Geological Survey triangulation station "FIELD" is as follows:

Latitude: 34°47'36.71" N. Longitude: 114°33'07.72" W. NAD27

The mean magnetic declination as taken from quadrangle map Needles, CALIF/ARIZ., published in 1970 by U.S. Geological Survey, is 14° E.

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	Restoring the survey executed by John J. Fisher, in 1905-06
	Beginning at the cor. of secs. 15, 16, 21, and 22, monumented with a lava stone, 24 x 12 x 10 ins., firmly set, projecting 8 ins. above ground, mkd. with 3 groves on the south face and 3 groves on the east face. An iron post, 2 1/2 ins. diam., firmly set, projecting 8 ins. above ground, with brass cap mkd. FWS T16N R21W 16 15 21 22 WC 1962, is set along side.
	At the cor. point.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 22 ins. in the ground, with brass cap mkd.
	T16N R21W S16 | S15 S21 | S22 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.
	Deposit the stone and the iron pipe beside the stainless steel post.
	West, bet. secs. 16 and 21.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.
40.00	Point for the 1/4 cor. of secs. 16 and 21, determined at record bearing and dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh, impracticable to monument.
80.00	Point for the cor. of secs. 16, 17, 20, and 21, determined at record bearing and dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh, impracticable to monument.

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	West, bet. secs. 17 and 20.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.
40.00	Point for the 1/4 cor. for secs. 17 and 20, determined at record bearing and dist.; there is no remaining evidence of the original cor.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with brass cap mkd.
	T16N R21W S17 1/4 —————— S20 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.
61.11	Point for the meander cor. of secs. 17 and 20, determined at record bearing and dist.; there is no remaining evidence of the original cor.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with brass cap mkd.
	T16N R21W S17 MC —————— S20 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.
	From the cor. of secs. 16, 17, 20, and 21.
	N. 0°16' E., bet. secs. 16 and 17.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
40.00	Point for the 1/4 cor. of secs. 16 and 17, determined at proportionate dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh, impracticable to monument.
80.00	Point for the cor. of secs. 8, 9, 16 and 17, determined at proportionate dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh impracticable to monument. From this cor. point, the cor, of secs. 9, 10, 15, and 16 bears East, 79.72 chs. dist., monumented with a stainless steel post, 28 ins. long, 2 1/2 ins. diam., firmly set, projecting 2 ins. above ground, with brass cap mkd. T16N R21W S9 S10 S16 S17 1989. The intervening cor. was searched for and not found.
	West, bet. secs. 8 and 17. Over nearly level land, through dense salt cedar, creosote and undergrowth.
40.00	Point for the 1/4 cor. of secs. 8 and 17, determined at record bearing and dist.; there is no remaining evidence of the original cor. Point falls in Topock Marsh, impracticable to monument.
80.00	Point for the cor. of secs. 7, 8, 17, and 18, determined at record bearing and dist.; there is no remaining evidence of the original cor. Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 27 ins. in the ground, with brass cap mkd. T16N R21W S7 | S8 S18 | S17 1992 Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.

BOOK 5379

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	S. 0°03' E., bet. secs. 17 and 18.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.
1.78	Point for the meander cor. for secs. 17 and 18, determined at record bearing and dist.; there is no remaining evidence of the original cor. This cor. now functions as a witness point.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 27 ins. in the ground, with brass cap mkd.
	T16N R21W S18 | S17 WP 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.

	From the cor. of secs. 7, 8, 17, and 18.
	West, bet. secs. 7 and 18.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.
2.19	Point for the meander cor. of secs. 7 and 18, determined at record bearing and dist.; there is no remaining evidence of the original cor. This cor. now functions as a witness point.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 27 ins. in the ground, with brass cap mkd.
	T16N R21W S7 WP S18 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.

BOOK 5379

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	From the cor. of secs. 7, 8, 17, and 18.
	N. 0°16' W., bet. secs. 7 and 8.
	Over nearly level land, through dense salt cedar, creosote and undergrowth.
40.00	Point for the 1/4 cor. of secs. 7 and 8, at proportionate dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh, impracticable to monument.
80.00	Point for the cor. of secs. 5, 6, 7, and 8, at proportionate dist.; there is no remaining evidence of the original cor. Point falls in Topock marsh, impracticable to monument.
	From this cor. point, the cor. of secs. 3, 4, 9, and 10, bears N. 89°58' E., 159.90 chains dist., monumented with a stainless steel post, 28 ins. long, 2 1/2 ins. diam., firmly set, projecting 5 ins. above ground, with brass cap mkd. T16N R21W S4 S3 S10 S9 1989.
	Intervening cors. were searched for and not found.

	N. 89°36' W., bet. secs. 6 and 7. Over nearly level land, through dense salt cedar, creosote and undergrowth.
40.21	Point for the 1/4 cor. of secs. 6 and 7, at proportionate dist.; there is no remaining evidence of the original cor.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 27 ins. in the ground, with brass cap mkd. T16N R21W S6 1/4 ——— S7 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.
79.56	The cor. of secs. 1, 6, 7, and 12, on the W. bdy. of the Tp., monumented with a stainless steel post, firmly set, projecting 1 ins. above ground, with brass cap mkd., T16N R22W R21W S1 S6 S12 S7 1992, established in the dependant resurvey of the east bdy. of T. 16 N., R. 22 W., executed concurrently under this same group.

BOOK 5379

Dependent Resurvey a Portion of the Subdivisional Lines,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS

From this cor. point, U.S. Geological Survey triangulation station "FIELD", with published latitude of 34°47'19.238" N. and longitude of 114°33'50.266" W., NAD27, bears S. 63°33.5' W., 60.066 chs. dist., monumented with a standard brass disk, 3 ins. diam., seated in a 12 in. diam. concrete cylinder, flush with the ground, with top of disk mkd. FIELD 1964 and a triangle.

Portion of the Adjusted 1906 Meanders
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

From a witness point, identical to the 1906 meander cor. for secs. 7 and 12, monumented with a stainless steel post, firmly set, projecting 4 ins. above ground, with brass cap mkd., WP T16N R22W R21W S12 S7 1992, as described in the dependant resurvey of the subdivisional lines of T. 16 N., R. 22 W., executed concurrently under this same group.

Thence downstream with the 1906 adjusted meanders of the left bank of the Colorado River through sec. 7.

S. 40°59' E., 3.88 chs.

S. 54°22' E., 16.65 chs.

S. 59°22' E., 11.56 chs.

S. 57°31' E., 5.59 chs.

S. 26°36' E., 3.32 chs.

S. 43°43' E., 12.40 chs.

S. 54°08' E., 9.58 chs.

S. 67°01' E., 21.60 chs.

S. 50°10' E., 12.10 chs. At end of course, a witness point, identical to the 1906 meander cor. for secs. 7 and 18, hereinbefore described.

Portion of the Adjusted 1906 Meanders
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	Thence in sec. 18
	S. 50°55' E., 2.82 chs. — At end of course, a witness point, identical to the meander cor. for secs. 17 and 18. hereinbefore described.
	Thence in sec. 17
	S. 13°20' E., 80.39 chs. — At 7.01 chains on this course intersect the left bank of the Colorado River, At end of course a witness point, identical to the meander cor. for secs. 17 and 20, hereinbefore described.

Survey of a Portion of the Fixed and Limiting Boundary of the Left Bank of the Abandoned Channel of the Colorado River, T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

The following field notes describe a portion of the left bank of the Colorado River as it existed prior to channelization.

From the meander cor. of secs. 7 and 12, monumented with a stainless steel post, firmly set, projecting 5 ins. above the ground, with brass cap mkd., T16N R22W R21W S12 S7 MC 1992, as described in the survey of a portion of the fixed and limiting boundary of T. 16 N. R. 22 W., executed concurrently under this same group.

Thence, downstream.

S. 60°52' E., on the line bet. the MC and AP 1.

1.80 Point for AP 1, not monumented.

Survey of a Portion of the Fixed and Limiting Boundary of the
Left Bank of the Abandoned Channel of the Colorado River,
T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	S. 77°00' E., on the line bet. AP 1 and AP 2.
3.36	Point for AP 2, not monumented.
	S. 64°05' E., on the line bet. AP 2 and AP 3.
3.27	Point for AP 3, not monumented.
	S. 66°53' E., on the line bet. AP 3 and AP 4.
14.34	Point for AP 4, not monumented.
	S. 78°35' E., on the line bet. AP 4 and AP 5.
2.65	Point for AP 5, not monumented.
	S. 69°07' E., on the line bet. AP 5 and AP 6.
19.91	Point for AP 6, not monumented.
	S. 81°34' E., on the line bet. AP 6 and AP 7.
4.30	Point for AP 7, not monumented.
	S. 65°50' E., on the line bet. AP 7 and AP 8.
25.05	Point for AP 8, not monumented.
	S. 74°57' E., on the line bet. AP 8 and AP 9.
10.93	Point for AP 9, not monumented.

Survey of a Portion of the Fixed and Limiting Boundary of the Left Bank of the Abandoned Channel of the Colorado River, T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS	
	S. 72°38' E., on the line bet. AP 9 and AP 10.
10.57	Point for AP 10, not monumented.
	S. 84°48' E., on the line bet. AP 10 and AP 11.
9.48	Point for the meander cor. for secs. 7 and 18, at proportionate dist. Not monumented.
11.99	Point for AP 11, not monumented.
	S. 79°09' E., on the line bet. AP 11 and the witness point.
0.57	Point for the meander cor., for secs. 17 and 18, determined at proportionate dist. Not monumented.
8.20	Point for a witness point at intersection with the adjusted 1906 meanders.
	Set a stainless steel post, 28 ins. long, 2 1/2 ins. diam., 24 ins. in the ground, with brass cap mkd.
	WP T16N R21W S 17 1992
	Deposit a magnet in a 1 x 1 x 2 5/8 ins. white plastic case beneath the stainless steel post.
	From this cor. point, the meander cor. for secs. 17 and 20, bears S. 13°20' E., 73.38 chains dist., hereinbefore described.
	From this same cor. point, a witness point, identical to the meander cor. for secs. 17 and 18, bears N. 13°20' W., 7.01 chs. dist., hereinbefore described.

T. 16 N., R. 21 W., Gila and Salt River Mer., Arizona

CHAINS

GENERAL DESCRIPTION

This survey is located in the Havasu Fish and Wildlife Area approximately 2 miles from the town of Needles Calif. The elevation ranges from 400 to 500 feet above sea level.

The soil ranges from a sandy loam to a swampy peat along the marshes. Vegetation consists of creosote, arrow weed and salt cedar.

The geographic position of the following points were determined by differential positioning using Ashtech MXII Geodetic Positioning System. U.S. Geological Survey triangulation stations "BREEZE", "FIELD" and "ARIZ 97" were used as control stations. Coordinates refer to the top of the monument.

Station	Latitude	Longitude
S 1/4 cor sec. 34 T17N R21W GSRM.	34°48'28.96 N	114°29'59.66" W
Cor. of secs. 3 and 4 T16N R21W GSRM.	34°48'28.95 N	114°29'58.33" W
Cor. of secs. 3, 4, 9, and 10 T16N R21W GSRM.	34°47'36.40 N	114°29'58.24" W
Cor. of secs. 9, 10, 15, and 16 T16N R21W GSRM.	34°46'44.11 N	114°29'58.11" W
Cor. of secs. 15, 16, 21, and 22 T16N R21W GSRM.	34°45'51.89 N	114°29'58.18" W

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FIELD ASSISTANTS

NAMES	CAPACITY
Gordon R. Bubel	Surveying Technician
Clinton T. Lancaster	Surveying Technician
Terry W. Kessel	Surveying Technician
Steve R. Walton	Surveying Aid

CERTIFICATE OF SURVEY

I, Clyde J. King, Cadastral Surveyor, HEREBY CERTIFY upon honor that, in pursuance of Special Instructions bearing date of the 6the day of February, 1992, I have dependently resurveyed a portion of the subdivisional lines, and a portion of the 1906 adjusted meanders, and survey a portion of the fixed and limiting boundary of the left bank of the abandoned channel Colorado River, of Township 16 North, Range 21 West, of the Gila and Salt River Meridian, in the State of Arizona, which are represented in the foregoing field notes as having been exccuted by me and under my direction; and that said survey has been made in strict conformity with said special instructions, the Manual of Instructions for the Survey of the Public Lands of the United States, and in specific manner described in the foregoing field notes.

4/13/93
(Date)

(Cadastral Surveyor)

CERTIFICATE OF APPROVAL

BUREAU OF LAND MANAGEMENT
Arizona State Office
Phoenix, Arizona

The foregoing field notes of the resurvey of a portion of the subdivisional lines, and a portion of the 1906 adjusted meanders, and survey of a portion of the fixed and limiting boundary of the left bank of the abandoned channel of the Colorado River, of Township 16 North, Range 21 West, Gila and Salt River Meridian, Arizona, executed by Clyde J. King, Cadastral Surveyor, having been critically examined and found correct, are hereby approved.

APR 14 1993
(Date)

James P. Kelley
(Chief Cadastral Surveyor of Arizona)

~~CERTIFICATE OF TRANSCRIPT~~

I CERTIFY that the ~~foregoing~~ transcript of the field notes of the above-described surveys in T. 16 N., R. 21 W., ~~Gila~~ and Salt River Meridian, Arizona, is a true copy of the original field notes.

~~(Date)~~

~~(Chief Cadastral Surveyor of Arizona)~~