

6017

U. S. COAST & GEODETIC SURVEY
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Form 504
Rev. Dec. 1933

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

~~Topographic~~ } Sheet No. U. (T-5028)
Hydrographic } 6017

State CALIFORNIA

LOCALITY

SACRAMENTO - SAN JOAQUIN DELTA

ROBERTS ISLAND AND

VICTORIA ISLAND

1934

CHIEF OF PARTY

L. P. Reynor

6017

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

REG. NO. 6017

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

SEP 4 1934

Acc. No. _____
sheet is _____

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. U (T-5028)

REGISTER NO. 6017

State CALIFORNIA

General locality SACRAMENTO - SAN JOAQUIN DELTA

Locality ROBERTS ISLAND AND VICTORIA ISLAND

Scale 1:10,000 ✓ Date of survey JUNE ✓, 1934

Vessel HELEN F (Leased Launch)

Chief of Party L. P. RAYNOR ✓

Surveyed by L. P. RAYNOR ✓

Protracted by G. C. WHITE

Soundings penciled by G. C. WHITE

Soundings in ~~fathoms~~ feet

Plane of reference M L L W ✓

Subdivision of wire dragged areas by _____

Inked by A. H. YEDMANS

Verified by A. H. Y.

Instructions dated SEPTEMBER 2, 1933 et.al., 19

Remarks: HYDROGRAPHIC SIGNALS PLOTTED BY: G. C. WHITE
CHECKED BY: S. S. WHITEHEAD

HYDROGRAPHIC TITLE SHEET

FIELD No. U (T-5028)

STATE: CALIFORNIA

GENERAL LOCALITY: SAN JOAQUIN DELTA

LOCALITY: PORTIONS OF VICTORIA & NORTH CANALS AND
MIDDLE RIVER, LONGITUDE 121° 33' 30" TO 121° 31'

SCALE: 1:10,000 DATE OF SURVEY: JUNE-1934.

VESSEL: HELEN F (Leased Launch)

CHIEF OF PARTY: L. P. RAYNOR

SURVEYED BY: L. P. RAYNOR

PROTRACTED BY: G. C. WHITE

SOUNDINGS PENCILED BY: G. C. WHITE

SOUNDINGS IN FEET

PLANE OF REFERENCE: M L L W

INSTRUCTIONS DATED: SEPTEMBER 2, 1933, et.al.

HYDROGRAPHIC SIGNALS PLOTTED BY: G. C. WHITE
CHECKED BY: S. S. WHITEHEAD

DESCRIPTIVE REPORT

of

HYDROGRAPHIC SHEET U (T-5028)

AUTHORITY, LIMITS DATES:

The AUTHORITY for this work is contained in the following letters:

1. 22 LE 1990 March 17, 1933
2. 22 AHH 1990 August 12, 1933
3. SUPPLEMENTAL INSTRUCTIONS
PROJECT 98 HT Sept. 2, 1933
4. 26 RS 1990 Nov. 9, 1933
5. 22 AHH 1990 Nov. 16, 1933
6. 22 MEN 1990 Dec. 2, 1933

This sheet covers Middle River from the Sante Fe R.R. nearly to the Union Island Bridge, and about 2 miles of Victoria and North Canals southwest of their junction with Middle River. The work was done under the supervision of the Chief of Party between June 14 and 28, 1934.

GENERAL NOTES:

Middle River is a natural waterway, on the sides of which levees have been built to protect the adjacent land from damage by flood waters. Below the Borden Highway Bridge the levees also serve in reclaiming the tule land, particularly on Victoria and Woodward Islands. North Canal and Victoria Canal are artificial channels dredged primarily for the spoil needed in reclaiming Victoria Island on the one hand and Union Island on the other. No particular attention was made in the dredging to the necessities of navigation. Occasional dredging has been done by private interests or the U. S. Engineers in the interests of navigation in Middle River near Fish Camp Landing and more is contemplated in order to obtain a 9 ft. channel as far as Fish Camp Landing.

SURVEY METHODS:

Signals were located by:

- A. Taking boat sheet in the field and spotting topographic detail such as tule points, shed gables, syphons, and by measurement along the levee with tape or stadia from spottable detail.
- B. By sextant three-point fixes using objects previously located by the photo compilation party and shown in blue on the boat and smooth sheets.
- C. By using the boat sheet on the planetable and locating by standard topographic methods. These are also shown in red and indicated on the boat sheet with letter, (P).

Boat positions were located by:

- A. Standard method of three-point fix with sextant, or
- B. By bearings read on pelorus #24874 used with compass of same number, in conjunction with distances as read by range finder #7277.

The range finder was frequently tested at 5 meter intervals and results are tabulated in range finder book #2, which will be submitted. Constant use of the range finder by the observers has made it possible to read distances up to 60 meters with a probable error of not over two meters and up to 70 meters with probable error of not over four meters. Distances greater than this were rarely used. If necessary, due to the width of the stream, bearings were taken on objects on the opposite shore and at the same time a range finder reading was taken to the nearest shore.

Compass deviations were obtained on June 12 and 28 by swinging launch on a distant object on every 15° rhumb. They have been entered on page 1 of each volume. The deviations to be used each day have been indicated in the sounding volumes.

Depths were obtained with line using 9# lead or with sounding pole graduated in fathoms and feet up to 4 fathoms and turned end for end after each sounding. Spacing was done on time using clock with automatic sounding device for most of the work. Depths were read to the nearest tenth of a foot and reduced to the nearest $\frac{1}{2}$ ft. in the sounding records. Smooth sheet was plotted in one-half feet up to $9\frac{1}{2}$ ft. and even feet beyond 10 feet as authorized in Instructions of December 2, 1933. *One-half used only on critical depths on smooth sheet.*

Smooth plotting was done on an aluminum sheet coated with tanned gum arabic on which the photo compilation had been printed.

NAVIGATION, LANDINGS:

Considerable tonnages of grain, sugar beets, sheep, and other agricultural products are handled on Middle River and connecting canals. There are practically no wharves, the boats making fast alongside the bank to take on or discharge cargo where desired if the depth alongside is sufficient. Middle River, above Fish Camp Landing, is rarely used due to lack of depth and to the fact that most products can be more readily handled by trucks. There is sufficient water for small fishing and pleasure craft drawing not more than 4 feet, up as far as the limits of the sheet or to Union Island or Williams Bridge.

BRIDGES, OVERHEAD CABLE CROSSINGS:

(Middle River)

Borden Highway Drawbridge is the only bridge shown on this sheet. This has a horizontal clearance of 108 feet on the west draw span and 103 feet on the east draw span.

5028

(M. + N.E)

The vertical clearance above MHW is $11\frac{1}{2}$ feet. The overhead power line crossing near Fish Camp Landing has a clearance of 119 feet above MHW. The overhead power lines between triangulation stations "Middle River, West Wood Pole 1932 and Middle Pole 1932 is 104 feet above MHW, and between Middle and East Poles is 127 feet at MHW.

TIDAL DATA:

A portable automatic tide gage was maintained at Borden Highway Bridge over Middle River from April 10 to May 16, 1934 for determination of datum plane and time of tide. The highest tide recorded was 7.3 ft. on the staff on May 3, 1934, and the lowest tide was 3.2 on the staff, recorded April 17, 19, 23, 24, 1934. While soundings were being made observer was stationed to read the staff at that place.

Standard automatic tide gage was maintained at the Union Island bridge over Middle River from May 29 to June 24, 1934 for the determination of datum plane, time of tide, and for reduction of soundings. The highest tide recorded was ~~about~~ 9.4 on the staff on June 11, and the lowest tide recorded was 4.3 on the staff and occurred on June 2 and 19, 1934. Tide reducing tables for the above gages follow:

Staff reads: MLLW 3.2 ft. MLLW 4.45

Middle River Borden Highway Bridge		Union Island Bridge	
1.9 to 2.4	add 1 ft.	3.1 to 3.6	add 1 ft.
2.4 to 2.9	" $\frac{1}{2}$ ft.	3.6 to 4.1	" $\frac{1}{2}$ ft.
2.9 to 3.4	zero	4.1 to 4.6	zero
3.4 to 3.9	subtract $\frac{1}{2}$ ft.	4.6 to 5.1	subtract $\frac{1}{2}$ ft.
3.9 to 4.4	" 1 ft.	5.1 to 5.6	" 1 ft.
4.4 to 4.9	" $1\frac{1}{2}$ ft.	5.6 to 6.1	" $1\frac{1}{2}$ ft.
4.9 to 5.4	" 2 ft.	6.1 to 6.6	" 2 ft.
5.4 to 5.9	" $2\frac{1}{2}$ ft.	6.6 to 7.1	" $2\frac{1}{2}$ ft.
5.9 to 6.4	" 3 ft.	7.1 to 7.6	" 3 ft.
6.4 to 6.9	" $3\frac{1}{2}$ ft.	7.6 to 8.1	" $3\frac{1}{2}$ ft.
6.9 to 7.4	" 4 ft.	8.1 to 8.6	" 4 ft.
7.4 to 7.9	" $4\frac{1}{2}$ ft.	8.6 to 9.1	" $4\frac{1}{2}$ ft.
		9.1 to 9.6	" 5 ft.
		9.6 to 10.1	" $5\frac{1}{2}$ ft.

CHANGES*PHOTO-COMPILATION:

The following changes were noted either on the boat sheet or smooth plotting of the hydrographic work. Signal MRW 7 was located on a ditch line which was found to be in error. The signal was later located by planetable and is correctly shown on the smooth sheet. MRW 8 which is shown as being 2 meters off the east edge of a flood gate erroneously located on the photo-compilation was re-located by planetable measurements and is correctly shown on the smooth sheet.

*Referred to
in photo
Section
view*

MRM6 *Handwritten*

No floodgate exists in the levee opposite MRW 6 and was deleted from the smooth sheet. About 20 meters east of MRM 24 a small tule island no longer exists and was expunged from the smooth sheet. At Drexler Landing and Camp 10, Union Island, house boats have been deleted from the smooth sheet. ✓

*Referred to
in Photo
Section
page*

MISCELLANEOUS NOTES:

Overhanging brush on the north and east levee of Middle River from Drexler's Landing to MRE 7 prevented lines being run closer than 15 meters to shore. Snags are frequent in the river beyond Fish Camp Landing, one being struck by launch near south shore between MRM 22 and MRM 21 and MRM 7 and MRW 5. These have been indicated on the smooth sheet. A large tree was found in the water between MRW 5 and MRW 4. The snags in most cases float slowly with the current but remain in the same general locality for a considerable time. Boatmen with small craft should keep a sharp lookout for them when navigating in this locality. ✓

LANDMARKS, GEOGRAPHIC NAMES.

List of Landmarks suitable for charting as well as notes on Geographic Names were submitted with the Descriptive Report of the photo-compilation of this sheet. *Filed as chart letters.* ✓

H.B.

L.P. Raynor

L. P. Raynor
Chief of Party

STATISTICS

T-5028

DATE	DAY	VOL	MILES	POSITIONS	SOUNDINGS
June 23	A	1	20.0	144	1409
" 26	B	1	4.0	62	709
" 26	B	2	18.3	89	966
" 27	C	2	14.0	149	1235
" 28	D	1	0.5	7	39
" 28	D	3 (5027)	<u>2.1</u>	<u>36</u>	<u>216</u>
TOTALS			58.9	487	4574

HYDROGRAPHIC SIGNALS: 126

GEOGRAPHIC NAMES
California

Date Nov. 23, 1934
HMS

*Names underlined in red approved Nov. 23, 1934
H Bacon*

- * Approved by the Division of Geographic Names, Department of Interior.
- Ø, Not Approved by the Division of Geographic Names, Department of Interior.
- R, Referred to the Division of Geographic Names, Department of Interior.

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location
	<u>Roberts Island</u>	<p>Entire area of this sheet north and east of middle River is on Roberts Island. Roberts Island is the area enclosed by the San Joaquin and middle Rivers, and is divided into a number of tracts. Suggest that name <u>Roberts Island</u> be placed northwest of trappers Slough, and so spotted on the eastern portion of the sheet as to indicate that the entire area between middle River and the A.T. & Santa Fe R.R. is on Roberts Island.</p>			
	<u>Honker Lake Tract</u>	Local usage and reliable maps			
	<u>Upper Jones Tract</u>	"			
	<u>The Pocket</u>	"			
	<u>Drexler Tract</u>	"			
	<u>Victoria Island</u>	"			
	<u>Union Island</u>	"			
	<u>Trapper Slough</u>	"			
	<u>Victoria Canal</u>	"			
	<u>Middle River</u>	"			
	<u>Fish Camp Slough</u> OK	Fish Camp Landing shown at mouth of this slough on detailed maps.			
	<p>Camps 23 and 24 at the junction of Trapper Slough and Middle River not at same location as on Chart of the Sacramento and San Joaquin Rivers, 1921 by Hutchison & Sons; and on the Weathers Maps various editions.</p>				
	Other <u>Camps</u> located same as on maps consulted	<p>See note in name sheet for T 5028 HB For authorities consulted see DR-T-5027 HB</p>			

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 6017...

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	.487...
Number of positions checked	..7...
Number of positions revised	..0...
Number of soundings recorded	.4574.
Number of soundings revised	..2...
Number of signals erroneously plotted or transferred0.....

Date:.....Oct. 15, 1934.....

Cartographer:.....A.H. YEOMANS.....

Verification of protracting) by A.H.Y.	Time: 36 hrs.
Verification & inking of rocks and shoals)		
Verification of inking by		Time:
Review by	H.W. Murray	Time: 5 1/2 "

LAC

September 21, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 6017

Locality Roberts Island and Victoria Island, San Joaquin Delta, Calif.

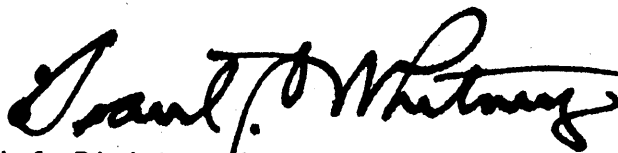
Chief of Party: L. P. Raynor in 1934

Plane of reference is mean lower low water, reading
3.3 ft. on tide staff at Borden Highway Bridge, Middle River
14.6 ft. below B. M. 1

4.6 ft. on T. S. at Union Island Highway Bridge
19.4 ft. below B.M. 1

Height of mean higher high water above plane of reference is
approximately 3.5 ft.

Condition of records satisfactory except as noted below:


Chief, Division of Tides and Currents

Report on H. 6017.

Chief of Party - L. P. Raynor. Surveyed in June 1934.
Protracted by - G. C. White. Surveyed by - L. P. Raynor.
Verified and inked by - A. Yeomans. Soundings plotted by - G. C. White.

1. The records conform to the requirement of the General Instructions *as noted in the review* *2/11/34*
2. The depth curves were completely drawn except in channels with only one line of soundings and along shore lines where soundings were too close for the curves. ✓
3. The field plotting was completed to the extent prescribed in the General Instructions except that the depth curves were not drawn. ✓
4. The office draftsman did no drafting over that had been done by the field party.
5. The junction with the adjacent sheet H. 6016 was made and found to be satisfactory, the other joining sheet H. 6018 has not been completed. ✓

Submitted by -
A. Yeomans.

80KTA

H-6017

POST-OFFICE ADDRESS: **Bb** 2512, San Francisco, California

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

November 18, 1934.

1934 NOV 22 - AM 9:00

To: The Director,
U. S. Coast and Geodetic Survey,
Washington, D. C.

From: L. P. Raynor, Lieut. Coast and Geodetic Survey

Subject: Middle River, San Joaquin Delta, California.
Reference: 80-DRM November 8, 1934.

In reply to the above reference, I have to advise that I am certain that the cable does not cross the main channel.

The note was made by the signal building party, and if my memory serves me right, refers to a wire about size of telephone wire that was stretched across the northern waterway, to keep cattle from straying beyond it.

I am sending the tracing to Mr. Joseph LeConte, who is now working at photo compilation on the Tennessee Valley Project, with a request that he advise you further on the cable, with regards to size, use etc.



L. P. Raynor,
Lieut. C. & G. S.

KTA
C

80-DRM

November 8, 1934.

To: Lieut. L. P. Raynor,
U. S. Coast and Geodetic Survey,
P. O. Box 2512,
San Francisco, California.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Middle River, San Joaquin Delta, California.

There is inclosed a tracing of a small section of Middle River from your hydrographic boat sheet No. U (T 5028), San Joaquin Delta, Roberts Island and Victoria Island.

Information is requested as to whether the penciled note, "Cable 1 ft. under water", refers to the unsurveyed northern waterway or to the main channel, which shows a depth of 5 to 8 feet, or whether the cable crosses both channels at that depth.

Your descriptive report states that the main channel has sufficient water for small boats drawing not more than 4 feet. If this note refers to the main channel, it would appear to be practically blocked.

From the above, it is believed that you may recall the facts regarding the cable in order that the proper notation may be made on the chart.

(Signed) R. S. PATTON

Inclosure.

Director.

6. (b) U. S. Army Engineers' B.P. No. 27184 (1933).

The few soundings of this survey in the southwestern channel in lat. 37°54.4', long. 121°30.4', are in good agreement with those of the present survey.

(c) The office has no record of other surveys made within the limits of H-6017 (1934).

7. Comparison with Chart.

There is no published chart covering the area of the present survey.

8. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual.

9. Additional Field Work Recommended.

This survey is complete, no additional field work is required. However, the matter noted in paragraph 11(b) of this review should be cleared up.

10. Superseding Previous Surveys.

Within the limits of the present survey, there are no previous surveys made by this Bureau.

11. Miscellaneous Matters.

(a) The following clearance discrepancies are noted between the field party's determinations and those shown on T-5028 (1931-32):

	<u>Latitude</u>	<u>Longitude</u>	<u>H-6017 (1934)</u>	<u>T-5028 (1931-32)</u>
1.	37°54.4'	121°30.3'	127 ft.	115 ft. (N.E.Span)
2.	37°54.4'	121°30.4'	104 ft.	115 ft. (S.W.Span)
3.	37°53.5'	121°26.4'	119 ft.	115 ft.

In all of the above cases, the field determination was retained on the sheet.


(b) In lat. 37°53.3', long. 121°25.0', the boat sheet shows a pencil note "Cable 1 foot under water." It is not clear whether this note applies to the upper or lower channel. In the latter case it would negative the controlling depth of 4 feet mentioned in the descriptive report. This should be referred to the field party.

*pec. answer from Field, does not cross lower channel.
(See letter attached) CKA*


12. Reviewed by Harold W. Murray - October 29, 1934.


Inspected by A. L. Shalowitz.

Examined and approved:


K. T. Adams,
Chief, Section of Field Records.


L. O. Pollock,
Chief, Division of Charts.


T. S. Boden,
Chief, Section of Field Work.


G. Wade,
Chief, Division of H. & T.

83
JL

~~870~~

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ANSWERED
DEC 31 1934
DIVISION OF CHARTS

DEC 31 1934

R.F.S.

Tennessee Valley Authority
410 Federal Building
Chattanooga, Tennessee
November 30, 1934

To: The Director
U. S. Coast and Geodetic Survey
Washington, D. C.

Subject: Middle River, San Joaquin Delta, California.
Cable Crossing on sheet T-5028.

Dear Sir:

At the request of Lieutenant L. P. Raynor, I am sending you information regarding a cable noted on boat sheet T-5028 across the North Channel of Middle River. I was in charge of Lieutenant Raynor's signal building party at that time and made the original notes.

The cable in question is a 3/8" to 1/2" stranded cable stretching from Roberts Island to the small tule island. It was at one time used in connection with a small ferry barge to the tule island on which were several fishing shacks which have since been abandoned. In any case it crosses the North Channel and not the South Channel. It sags a foot below approximate MLLW, but I would not advise any power boat navigation in this channel which is not more than 2 feet deep from signal MRM 6 to Signal MRE 1.

The above information is from memory but I am certain that it is very nearly correct.

Very truly yours,

Joseph Le Conte
Joseph Le Conte
Observer

JLeC/DTL

*applied to smooth
sheet 12/19/34
H. W. M.*

853

80-818

December 4, 1934.

Mr. Joseph LeConte, Observer,
Tennessee Valley Authority,
410 Federal Building,
Chattanooga, Tennessee.

My dear Sir:

Your letter of November 30th, furnishing information regarding the cable across the North Channel of Middle River, San Joaquin Project, California, is acknowledged with thanks.

Your interest and promptness in giving the details of the cable are greatly appreciated.

Yours very truly,

(Signed) R. S. PATTON
Director.

Copy to () Lieut. L. P. Raynor,
U. S. Coast and Geodetic Survey,
Box 2512,
San Francisco, California.

Three Point Fix, No. 981 B (d)

PRIVATE ROAD

THE POCKET

Abandoned Ferry to Island

*1/2" Cable 1ft. under water
Does not cross main channel*

not able to pass except at high water

PUMP

PUMP

MRW 5

MAMC

snag

MAW 4

Delete

full of tule

THREE PUM

PRIVATE ROAD

PUMP

PUMP

Hydrographic information
copied from Boat Sheet.

*Copy of T-5028
for H-6017.*

*Note: Information in this
by Field Party*

DITCH

UNION ISLAND

DITCH