

7797

Diag. Cht. No. 5534

Form 504

U. S. COAST AND GEODETIC SURVEY  
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. BO-1150 Office No. H-7797

LOCALITY

State CALIFORNIA

General locality SACRAMENTO RIVER

Locality ENTRANCES TO SACRAMENTO AND

SAN JOAQUIN RIVERS

194 50

CHIEF OF PARTY

C. A. George

LIBRARY & ARCHIVES

DATE JANUARY 8, 1952.

B-1870-1 (1)

46242

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER ~~NO~~-7797

Field No. Bo-1150

State California

General locality Sacramento & ~~San Joaquin~~ Rivers

Locality *Entrances to* Sacramento & San Joaquin Rivers, ~~Entrances~~

Scale 1:10,000 Date of survey 18 May to 17 Aug. 1950

Instructions dated 12 Apr. 1949 & 15 Feb. 1950

Vessel Bowie

Chief of party C.A. George

Surveyed by C.A. George

Soundings taken by ~~Automatic~~, graphic recorder, hand lead, ~~wire~~ Pole

Fathograms scaled by Ships Personnel

Fathograms checked by Ships Personnel & Norfolk Processing Office

Protracted by S.M. Tarkenton

Soundings penciled by S. M. Tarkenton

Soundings in ~~fathoms~~ feet at ~~MLLW~~ MLLW

REMARKS: This survey was smooth plotted in the Hydrographic Section  
of the Norfolk District Office.

7814  
over  
OK

APPROVAL SHEET FOR NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY  
HYDROGRAPHIC SURVEY H-7797 (1950), (Field No. BO-1150)

The field work on this survey has been given personal supervision by me and the boat sheet was examined daily during the progress of the work.

It is considered that the survey is complete and adequate and that no additional field work is required.



C. A. George,  
Commander, C&GS,  
Chief of Party

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET

Register No. H-7797 (Field No. BO-1150)

Hydrographic Survey of the entrance to the Sacramento and San Joaquin Rivers, on a scale of 1:10,000 by personnel of the Ship BOWIE, C. J. Beyma, Officer in Charge of Hydrography, C. A. George, Chief of Party.

A. PROJECT:

This survey was executed in accordance with The Director's Instructions dated 12 April 1949 and Supplemental Instructions dated 15 February 1950, Project CS - 256.

B. SURVEY LIMITS AND DATES:

General locality of this survey is in the vicinity of the Sacramento and San Joaquin River entrance. The survey extends from Mallard Island east, including all the waterway to Longitude 121°-47.7'.

Field work began on 18 May 1950 and ended on 17 August 1950.

This survey joins Sheet H-6735 (1941 and 1942) on a scale of 1:10,000 on the west and Sheet H-6753 (1942) on a scale of 1:10,000 on the east. This survey joins Sheet BO-05150, Register No. H-7798, <sup>(1950)</sup> on a scale of 1:5,000 at the east and west ends of New York Slough.

C. VESSEL AND EQUIPMENT:

Launch 113 was used for the major portion of the survey with Launch 133 and a dinghy being used for shoal soundings. The launches operated from the Ship BOWIE.

Type 808 J Fathometers Nos. S-111, S-112 and S-66 were used in Launch 113. Fathometers Nos. S-111 and S-112 in Launch 133. Pole soundings were taken from the dinghy in the very shoal areas.

D. TIDE AND CURRENT STATIONS:

Four tide gages were used in the reduction of soundings on this sheet.

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

D. TIDE AND CURRENT STATIONS: - continued

Mallard Island tide gage was used for the reduction of soundings from the westerly limit of the sheet to a line running approximately from New York Point to the entrance to Spoonbill Creek. This limit is shown on the boat sheet by a violet line.

Pittsburg tide gage was used for the reduction of soundings from a line New York Point to Spoonbill Creek, to a line extending from Van Sickle Island Light to the northwesterly point of Winter Island. This limit is shown by a violet line on the boat sheet.

Collinsville tide gage was used for the reduction of soundings from a line between Van Sickle Island Light to the northwesterly point of Winter Island extending to the easterly limit of the sheet in the vicinity of the Sacramento River and extending southward in the San Joaquin River to a approximately east and west line about one mile south of Point Sacramento. These limits are shown by a violet line on the boat sheet.

Antioch tide gage was used for the reduction of soundings east of a line between the south end of Winter Island and Pittsburg Landing (New York Slough) to the easterly limit of the sheet and including the area in the San Joaquin River south of the east west line one mile south of Point Sacramento. These limits are shown by violet lines on the boat sheet.

Four current stations were occupied on this sheet for a 75 hour series of observations. The positions of the current stations are as follows:

Current Station No. 2 - Lat.  $38^{\circ}-03.43'$ , Long.  $121^{\circ}-52.17'$

Current Station No. 3 - Lat.  $38^{\circ}-02.64'$ , Long.  $121^{\circ}-50.53'$

Current Station No. 4 - Lat.  $38^{\circ}-01.47'$ , Long.  $121^{\circ}-49.20'$

Current Station No. 5 - Lat.  $38^{\circ}-04.05'$ , Long.  $121^{\circ}-49.97'$

F. CONTROL STATIONS:

The positions of triangulation stations were obtained from Publication "Geographic Positions of Triangulation Stations, California VII, San Francisco and Vicinity" and from the field computations of geographic positions of the 1950 field season.

Topographic stations were taken from Topographic Surveys BO-A-50, BO-B-50 and BO-C-50, of 1950. *(Graphic Control) T-7107A, T-7107B*  
*T-7048*

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

G. SHORELINE AND TOPOGRAPHY:

The shoreline was transferred from planimetric Sheets Nos. T-5944 and T-5945 of 1950 and T-4685 (1934).

H. SOUNDINGS:

Soundings were measured by 808 J Fathometers Nos. S-111, S-112 and S-66, leadline and sounding pole. Numerous bottom specimens were taken and the locations are shown on the boat sheet by a green circle.

I. CONTROL OF HYDROGRAPHY:

Hydrography on this survey was controlled by sextant angles taken between objects located by triangulation and topography.

J. ADEQUACY OF SURVEY:

This survey is believed to be complete and adequate to supersede prior surveys for charting.

K. CROSSLINES:

Crosslines consist of approximately 8% of the lines run. Predicted tides were used in the reduction of all soundings shown on the boat sheet. The crossings are within 1 foot in the flat areas and reasonably close in the areas of steep slopes and irregular bottom.

L. COMPARISON WITH PRIOR SURVEYS:

In general this survey agreed with prior surveys H-6735 and H-6753 except in the following places:

In Lat.  $38^{\circ}-02.81^{\prime}$ , Long  $121^{\circ}55.03^{\prime}$ , prior survey H-6753<sup>35</sup> shows 17 feet. This area was thoroughly developed on overlay No. 1 and the least depth found was ~~26~~<sup>27</sup> to ~~30~~<sup>29</sup> feet.

In Lat.  $38^{\circ}-02.81^{\prime}$ , Long.  $121^{\circ}-54.86^{\prime}$ , prior survey H-6753<sup>35</sup> shows 21 feet. This survey shows ~~28~~<sup>27</sup> to ~~30~~<sup>32</sup> feet in this locality.

In Lat.  $38^{\circ}-02.84^{\prime}$ , Long.  $121^{\circ}-54.57^{\prime}$ , prior survey H-6735<sup>6</sup> shows 21 feet. This survey shows 24 feet.

In Lat.  $38^{\circ}-02.55^{\prime}$ , Long.  $121^{\circ}-53.83^{\prime}$ , prior survey H-6735 shows 2 feet. This survey shows 11 to 12 feet. A thorough investigation was made using a dinghy and also a makeshift drag. (See pg. 18, Vol. 32)

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

L. COMPARISON WITH PRIOR SURVEYS: - continued

In Lat.  $38^{\circ}-02.72^{\prime}$ , Long.  $121^{\circ}-53.20^{\prime}$  prior Survey H-6735 shows 29 feet. This area was developed on overlay No. 3 and the least depth found was ~~32~~<sup>30</sup> feet.

In Lat.  $38^{\circ}-03.98^{\prime}$ , Long.  $121^{\circ}-50.81^{\prime}$  prior Survey H-6753 shows 11 feet. This area was thoroughly developed on overlay No. 2 and the least depth found was ~~13.6~~<sup>14</sup> feet.

In Lat.  $38^{\circ}-04.02^{\prime}$ , Long.  $121^{\circ}-50.59^{\prime}$  prior survey shows 17 feet. This area was developed on overlay No. 2 and the least depth found was ~~19~~<sup>17</sup>-20 feet.

In Lat.  $38^{\circ}-04.09^{\prime}$ , Long.  $121^{\circ}-50.47^{\prime}$  prior survey shows 16 feet. This area was developed on overlay No. 2 and the least depth found was ~~17~~<sup>16</sup>-18 feet.

M. COMPARISON WITH CHARTS:

Chart 5534 covers this area. The notes under the previous paragraph also covers the comparison with charts and are not repeated.

N. DANGERS AND SHOALS.

No new dangers or shoals were found.

O. COAST PILOT INFORMATION:

Coast pilot information was furnished verbally to Captain Green, engaged at the time in Pacific Coast Pilot Field Work.

P. AIDS TO NAVIGATION:

The report on fixed aids to navigation was prepared on Form 567 and forwarded to the Washington Office on 26 September 1950.

The following floating aids to navigation were located on this survey.

Lat.	Long.	Depth	Pos.	Day	Launch	Date	Floating Aid
$38^{\circ}-02.73^{\prime}$	$121^{\circ}-53.27^{\prime}$	<del>65</del> <sup>4</sup>	1&2	a	113	5/18/50	New York Slough Lighted Buoy Black and Red Flashing Green ✓

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

P. AIDS TO NAVIGATION: - continued

Lat.	Long.	Depth	Pos.	Day	Launch	Date	Floating Aid
38°-02.6 <sup>7</sup> / <sub>4</sub> '	121°-53.49'	35 <sup>4</sup> / <sub>2</sub>	3	a	113	5/18/50	Suisun Bay Lighted Bell Buoy Red Flashing White. ✓ (Red 1932)
38°-03.52'	121°-51.96 <sup>5</sup> / <sub>2</sub> '	28 <sup>17</sup> / <sub>2</sub>	64	d	113	5/23/50	Suisun Bay Buoy No. 12 Red 1st Cl. Nun. (22 (1932)) ✓
38°-03.73 <sup>5</sup> / <sub>2</sub> '	121°-51.02 <sup>3</sup> / <sub>2</sub> '	43	139	m	113	6/12/50	San Joaquin River Lighted Buoy 1 Quick Flashing Green. ✓
38°-01.64 <sup>5</sup> / <sub>4</sub> '	121°-49.71'	47	12	r	113	6/21/50	San Joaquin River Lighted Buoy No. 2 Flashing Red. ✓
38°-02.04 <sup>5</sup> / <sub>4</sub> '	121°-49.97'	14 <sup>1</sup> / <sub>2</sub>	158	r	113	6/21/50	San Joaquin River Buoy C3. ✓
38°-01.31'	121°-48.42'	35 <sup>1</sup> / <sub>2</sub>	85	z	113	6/30/50	San Joaquin River Lighted Buoy 5 Flashing Green. ✓

A copy of the letter transmitting a chart with objects for use of the U. S. Coast Guard was forwarded to the Washington Office on 25 July 1950.

(Chart Letter 794, 1950)

Q. LANDMARKS FOR CHARTS:

A special report on Landmarks for Charts was prepared on Form 567 and forwarded to the Washington Office on 26 September 1950. (Chart letter 794, 1950)

A list of the recommended landmarks for this area follows:

Chippis Island Ferry Slip Tank. ✓

Pittsburg Pioneer Dairy Co. Tank. ✓

Pittsburg Stockton Firebrick Co. Water Tank. ✓



NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

Q. LANDMARKS FOR CHARTS: - continued

Pittsburg Johns Manville Co. Water Tank. ✓  
Pittsburg Redwood Mfg. Co. Tank. ✓  
Pittsburg Columbia Steel Co. Tank. ✓  
Pittsburg Columbia Steel Co. River Water Tank. ✓  
Pittsburg Columbia Steel Co. Canal Water Tank. ✓  
Pittsburg Pioneer Rubber Co. Water Tank. ✓  
Pittsburg Dow Chemical Co. Tank. ✓  
Antioch Fiber Products Co. Water Tank. ✓  
Antioch Municipal Water Tank. ✓  
Collinsville, East Mast, Radio KECC. ✓  
Collinsville, Center Mast, Radio KECC. ✓  
Collinsville, West Mast, Radio KECC. ✓  
Collinsville, Schoolhouse Cupola. ✓  
Montezuma Slough Drawbridge. ✓  
Pittsburg, Columbia Steel Foundry Tank. ✓  
Pittsburg, Tall Elevator Shaft. ✓

R. GEOGRAPHIC NAMES:

No change or additions to the geographic names shown on Chart 5534 are recommended. ✓

NOTES FOR DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SHEET - continued

U. VELOCITY CORRECTIONS:

The determination of velocity corrections is covered in a separate report. An abstract of the velocity corrections applied to the echo soundings is included in this report. (*Filed in Library S-2950*)

*H-7797*

*C. J. Beyma.*

C. J. Beyma,  
Lt. Comdr. C&GS

Approved:

*C. A. George -*

C. A. George,  
Commander, C&GS,  
Chief of Party

STATISTICS FOR HYDROGRAPHIC SURVEY, H-7797 (1950) FIELD NO. BO-1150

LAUNCH NO. 113

DAY	VOL. NO.	DATE	NO. POS.	NO. STATUE MILES
a	1	18 May	63	7.2
b	2	19 May	155	17.1
c	3	20 May	127	14.1
d	4	23 May	64	6.9
e	5	24 May	38	4.6
f	5	26 May	55	7.0
g	5	1 June	36	3.3
h	6	5 June	64	10.4
j	6 & 7	7 June	150	21.0
k	8	8 June	137	10.3
l	9	9 June	174	23.0
m	10	12 June	139	18.4
n	11	13 June	153	19.1
p	12	15 June	164	18.8
q	13	19 June	67	8.4
r	14	21 June	158	17.9
s	15	22 June	156	15.8
t	16	23 June	101	8.3
u	17	24 June	101	8.7
v	18	26 June	156	17.9
w	19	27 June	168	16.0
x	20	28 June	167	17.4

## STATISTICS FOR HYDROGRAPHIC SURVEY, H-7797 (1950) FIELD NO. BO-1150

LAUNCH NO. 113 (continued)

DAY	VOL. NO.	DATE	NO. POS.	NO. STATUE MILES
y	21	29 June	173	17.4
z	22	30 June	185	18.7
aa	23	6 July	150	12.8
ba	24	8 July	140	11.2
ca	25	10 July	143	14.0
da	26	28 July	79	5.5
ea	26 & 27	29 July	158	23.7
fa	27 & 28	30 July	160	16.4

LAUNCH NO. 133

a	29	14 June	90	8.0
b	30	10 July	85	6.6
c	30	2 August	87	7.8
d	31	8 August	74	6.1
e	32	10 August	27	2.1
f	32	11 August	15	4.1
g	32	12 August	20	12.3
h	32	14 August	60	3.0
j	33	15 August	18	1.2
k	33	16 August	24	0.5
l	33	17 August	32	1.1

STATISTICS FOR HYDROGRAPHIC SURVEY, H-7797 (1950) FIELD NO. BO-1150

SKIFF AND DOCK SOUNDING

<u>DAY</u>	<u>VOL. NO.</u>	<u>DATE</u>	<u>NO. POS.</u>	<u>NO. STATUE MILES</u>
a	34	7 July	30	--
b	35	15 August	166	9.9

TOTALS:           4539 Positions  
                  474.0 Statue Miles  
                  11.0 Square Statue Miles

TIDE NOTE - SURVEY H-7797(1950) Field No. BO-1150

For the reduction of all soundings from the westerly limit of the sheet to a line running approximately from New York Point to the entrance to Spoonbill Creek, the tide station at Mallard Ferry (Suisun Bay), California, Latitude  $38^{\circ} - 02.6'$  and Longitude  $121^{\circ} - 55.2'$  was used. The value of mean lower low water on the staff was 4.8 feet.

For the reduction of soundings in the area between the line from New York Point to Spoonbill Creek to a line extending from Van Sickle Island Light to the northwesterly point of Winter Island, the tide station at Pittsburgh (New York Slough), California, Latitude  $38^{\circ} - 02.2'$  and Longitude  $121^{\circ} - 52.8'$  was used. The value of mean lower low water on the staff was 1.5 feet.

For the reduction of all soundings in the area east of the line between Van Sickle Island Light and the northwesterly point of Winter Island, extending to the easterly limit of the sheet in the vicinity of the Sacramento River, and extending southward in the San Joaquin River to an approximate east-west line about one mile south of Point Sacramento, the tide station at Collinsville (Sacramento River), California, Latitude  $38^{\circ} - 04.4'$  and Longitude  $121^{\circ} - 50.9'$  was used. The value of mean lower low water on the staff was 2.0 feet.

For the reduction of soundings east of a line between the south end of Winter Island and Pittsburgh Landing (New York Slough) to the easterly limit of the sheet and including the area in the San Joaquin River south of the east-west line one mile south of Point Sacramento, the tide station at Antioch (San Joaquin River), California, Latitude  $38^{\circ} - 01.2'$  and Longitude  $121^{\circ} - 48.8'$  was used. The value of mean lower low water on the staff was 3.3 feet.

The authority for the values of mean lower low water and the areas for which the tide gages were used was contained in The Director's letters (36-rcb) dated 28 March and 22 May 1950.

ABSTRACT OF VELOCITY CORRECTIONS  
SURVEY H-7797(1950)(BO-1150)

Launch No. 113

DAY	DEPTH (feet)	CORRECTION (feet)
a 18 May	A Scale	
S-111	0 - 30	-0.4
	30 - 34	-0.6
(Initial 2.6 ft.)	34 - 39	-0.8
	39 - 55	-1.0
	B Scale	
	40 - 75	-2.0
b 19 May	A Scale	
S-111	0 - 30	0.0
	30 - 42	-0.2
(Initial 2.0 ft.)	42 - 50	-0.4
	50 - 55	-0.6
	B Scale	
	35 - 42	-1.2
	42 - 50	-1.4
	50 - 60	-1.6
	60 - 69	-1.8
	69 - 75	-2.0
c 20 May	A Scale	Position 1 to 87c
S-111	0 - 25	0.0
	25 - 34.5	-0.2
(Initial 2.0 ft.)	34.5 - 43	-0.4
	43 - 52	-0.6
	52 - 55	-0.8
	B Scale	
	35 - 45	-1.0
	45 - 55	-1.2
	55 - 70	-1.4
	A Scale	Position 88 to 127c
	0 - 55	0.0
	B Scale	
	(No B Scale soundings)	

ABSTRACT OF VELOCITY CORRECTIONS  
SURVEY H-7797(1950)(BO-1150)

Launch No. 113 (continued)

DAY	DEPTH (feet)	CORRECTION (feet)
d thru ea 23 May to 10 July S-111	A Scale 0 - 55	0.0
(Initial 2.0 ft.)	B Scale 35 - 90	-1.0
da & ea 28 & 29 July S-66	A Scale 0 - 55	0.0
(Initial 2.0 ft.)	B Scale (No B Scale soundings)	
fa 30 July S-66 from Pos 1 to 93 S-112 from Pos 94 to 160	A Scale 0 - 55	0.0
(Initial 2.0 ft.)	B Scale (No B Scale soundings)	

Launch No. 133

a & b 14 June & 10 July S-112	A Scale 0 - 13 $\frac{1}{2}$	0.0
(Initial 1.6 ft.)	13 $\frac{1}{2}$ - 22	-0.2
	22 - 28	-0.4
	28 - 34	-0.6
	34 - 38 $\frac{1}{2}$	-0.8
	38 $\frac{1}{2}$ - 44 $\frac{1}{2}$	-1.0
	44 $\frac{1}{2}$ - 49	-1.2
	49 - 55	-1.4
	B Scale	
	35 - 40	-1.4
	40 - 44	-1.6
	44 - 48	-1.8
	48 - 54	-2.0

c 2 August

(All Hand Lead Soundings this date)



## ABSTRACT OF VELOCITY CORRECTIONS

SURVEY H-7797(1950)(80-1150)

Launch 133 (continued)

DAY	DEPTH (feet)	CORRECTION (feet)
d, e, & f August 8, 10, & 11 S-111  (Initial 1.4 ft.)	A Scale 0 - 55	0.0
	B Scale 35 - 75	-1.0
g & h August 12 & 14 S-111  (Initial 1.4 ft.)	A Scale 0 - 09	0.0
	09 - 38	+0.2
	38 - 55	0.0
	B Scale 35 - 75	-1.0
j & k August 15 & 16 S-111  (Initial 1.4 ft.)	A Scale 0 - 55	0.0
	B Scale 35 - 75	-1.0
l day 17 August S-111  (Initial 1.4 ft.)	A Scale 0 - 09	0.0
	09 - 38	+0.2
	38 - 55	0.0
	B Scale 35 - 75	-1.0

## LIST OF SIGNALS

H-7797

TRIANGULATION STATIONS

FIBER	ANTIOCH, FIBER PRODUCTS CO., WATER TANK, 1932
NIG	ANTIOCH, MUNICIPAL WATER TANK, 1932
BLACK	BLACKJACK, 1931
CHIP	CHIP ISLAND FERRY SLIP, TANK, 1922
EAST	COLLINSVILLE, EAST MAST, RADIO KECC, 1950
CUP	COLLINSVILLE, SCHOOLHOUSE CUPOLA, 1950
WEST	COLLINSVILLE, WEST MAST, RADIO KECC, 1950
STEEL	COLUMBIA STEEL CO., TANK, 1922
JOHN	H. JOHNS MANVILLE CO., WATER TANK, 1932
MAL	MALLARD ISLAND, FERRY SLIP TANK, 1950
ZUM	MONTEZUMA ISLAND, WATER TANK, 1950
DRAW	MONTEZUMA SLOUGH DRAWBRIDGE, 1950
MON	MONTEZUMA SLOUGH, WATER TANK, 1950
YORK	NEW YORK SLOUGH, EAST END LIGHT, 1950
NEW	NEW YORK SLOUGH, WEST END LIGHT, 1950
PIO	PIONEER RUBBER CO., WATER TANK., 1932
PITT	PITT, 1922
CAN	PITTSBURG, COLUMBIA STEEL CO., CANAL WATER TANK, 1950
WAT	PITTSBURG, COLUMBIA STEEL CO., RIVER WATER TANK, 1950
DOW	PITTSBURG, DOW CHEMICAL CO., TANK, 1950
RED	PITTSBURG, REDWOOD M'FG. CO., TANK, 1950
RIV	SACRAMENTO RIVER, LIGHT "1", 1950
SAN	SAN JOAQUIN RIVER, MIDDLE TRANSMISSION TOWER, 1922
JOA	SAN JOAQUIN RIVER, SOUTH TRANSMISSION TOWER, 1922
SHER	SHERMAN, 1950
NOR	SHERMAN ISLAND, NORTH END LIGHT, 1950
TAN	SPOONBILL CREEK, WATER TANK, 1950
FIRE	STOCKTON, FIREBRICK CO., WATER TANK, 1932
VAN	VAN SICKLE ISLAND, LIGHT, 1950
TER	WINTER, 1950
WISE	WISE, 1950

LIST OF SIGNALS

H-7797

(Continued)

TOPOGRAPHIC SIGNALS

(SOURCE Bo-A-50)

T-7107

Abe	Bum	Doc	Flag	Jaw	Nis	Rat	Try
Ace	Cat	Dog	Fly	Joe	Oak	Rio	Via
Amp	Cop	Did	Guy	Kim	Orb	Roy	War
Bag	Cow	Egg	He	Mop	Owl	Sis	Yes
Bob	Cue	Elm	Ida	Mug	Peg	Tax	Zoo
Box	Dob	Fat	Ion	Nip	Pix	Tom	Zig

(Source Bo-B-50)

T-7107

Ant	Eva	Hub	Jug	Mud	Pro	Tide	Wow
Art	Fez	Hum	Ked	Neo	Rag	Toy	Yam
Axe	Fix	Hut	Ken	Nod	Rip	Tub	Yet
Bed	Fog	Ice	Key	Nud	Sam	Use	
Bus	Fox	Inn	Kid	Odd	Sax	Val	
Cab	Gab	Ink	Lag	Off	Shy	Vex	
Car	Gal	Its	Lea	Oil	Sic	Was	
Dip	Hat	Ivy	Lip	Old	Sty	Wax	
Dud	Hon	Jar	Lux	Ora	Sub	Wed	
Era	Hop	Jap	Mag	Pie	Tel	Why	

RHC

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### TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

16 January 1952

Division of Charts: R. H. Carstens

Plane of reference approved in 35  
volumes of sounding records for

HYDROGRAPHIC SHEET 7797

Locality Entrance to Sacramento and San Joaquin Rivers, California

- Chief of Party: C. A. George in 1950  
 Plane of reference is mean lower low water, reading
- 4.8 ft. on tide staff at Mallard Ferry Wharf
  - 4.8 ft. below B. M. 2 (1941)
  - 1.5 ft. on tide staff at Pittsburg
  - 23.7 ft. below B.M. 4 (1937)
  - 2.0 ft. on tide staff at Collinsville
  - 20.5 ft. below B.M. 3 (1936)
  - 3.3 ft. on tide staff at Antioch
  - 12.0 ft. below B.M. 3 (1936)

~~Conditions of observation~~

Height of mean high water above plane of reference is as follows:

Mallard Ferry Wharf	=	4.2 feet
Pittsburg	=	4.0 feet
Collinsville	=	3.8 feet
Antioch	=	3.7 feet

*Section E.C. McKay*  
Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H-7797

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>California</u>										BG-N	1
<u>Sacramento River</u>										"	2
<u>San Joaquin River</u>										"	3
											4
<u>Chippis Island</u>											5
<u>Spoonbill Creek</u>											6
<u>Van Sickle Island</u>											7
<u>Montezuma Slough</u>										BG-N	8
<u>Chain Island</u>											9
<u>Montezuma Island</u>											10
<u>Point Sacramento</u>											11
<u>Antioch</u>											12
<u>Pittsburg Landing</u>											13
<u>Winter Island</u>											14
<u>Middle Slough</u>											15
<u>Browns Island</u>											16
<u>New York Slough</u>											17
<u>New York Point</u>											18
<u>Mallard Island</u>											19
<u>PT. Wise</u>											20
											21
											22
											23
											24
											25
											26
											27

Names underlined in red are approved.  
1-4-57  
L. H. C. H.

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. .H-7797..

Records accompanying survey:

Boat sheets<sup>1</sup> (2 parts) sounding vols. 35.....; wire drag vols. ....; bomb vols. ....; graphic recorder rolls 21 Env; special reports, etc. 1. Smooth Sheet; 1. Descriptive Report; 1. Overlay Tracing; 3. Overlay Tracings (1 Env.); 1. Cahier, Velocity Corrections; 1. Env., Bar Checks;

1 Env. Speed Checks .

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

Number of positions on sheet		4539.
Number of positions checked		.25..
Number of positions revised		NONE.
Number of soundings revised (refers to depth only)		NONE.
Number of soundings erroneously spaced		NONE.
Number of signals erroneously plotted or transferred		NONE.
Topographic details	Time	..8...
Junctions	Time	..24...
Verification of soundings from graphic record	Time	..35...
Verification by <i>I.M. Zeskind</i> <i>T.L. JANSON</i> .....	Total time	22 325
	Date	10/28/52 9/12/52
Reviewed by <i>I.M. Zeskind</i> .....	Time	50
	Date	10/7/52

*Stini - 1864*

ADDENDUM  
To Accompany

HYDROGRAPHIC SURVEY H-7797 (Field No. Bo-1150)

SHORELINE

The shoreline originating on compilation T-5945 was originally transferred in pencil from a badly distorted film-positive. Another film-positive was requested and the shoreline was corrected accordingly.

Some discrepancies are pointed out on the overlay sheet showing instances of hydrographic positions falling on the shoreline. Due to the apparent strength of the control, the marshy character of the shoreline and the age of the air-photo compilation, these positions were not pulled into the water area but left for possible shoreline modifications in the Washington Office. Both film-positives are being forwarded with the smooth sheet. *Discrepancies between shoreline and hydrography adjusted.*

FATHOGRAMS

The fathograms were scanned in the field without due consideration for large areas of sand waves. This resulted in much re-scanning and correction of reduced soundings by the Processing Office. The lack of a uniform sounding interval and the excessive number of soundings recorded complicated the processing and plotting and greatly increased the time required.

SOUNDINGS

Soundings at crossings checked very well considering the irregular nature of the bottom, how ever, discrepancies between pole and fathometer soundings occurred at the following positions:

Lat. 38-02.56 Long. 121-53.35  
crossing 38-39ca (red)

Positions 1-2b and 34-35b (blue)

Lat. 38-03.25 Long. 121-51.65  
crossing 89-901 and 87-881 (red)

Positions 123-124b and 129-130b (green)

*soundings adjusted - crossings in harmony.*

Respectfully submitted,

*Hugh L. Proffitt*  
Hugh L. Proffitt  
Cartographer.

Norfolk, Va.  
3 Jan. 1952

Approved & forwarded:

*Earl O. Heaton*  
Earl O. Heaton  
Supervisor, SE Dist.

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7797

FIELD NO. BO-1150

California, Sacramento River, Entrances to Sacramento and San  
Joaquin Rivers  
Project No. CS-256

Surveyed - May-August 1950

Scale 1:10,000

Soundings:

Control:

808 Fathometer  
Sounding Pole

Sextant fixes on shore signals

Chief of Party - C. A. George  
Surveyed by - C. A. George  
Protracted by - S. M. Tarkenton  
Soundings plotted by - S. M. Tarkenton  
Verified and inked by - T. L. Janson  
Reviewed by - I. M. Zeskind, 8 October 1952  
Inspected by - R. H. Carstens

1. Shoreline and Control

The shoreline originates with air-photographic surveys T-4685 (1934), T-5944 (1950) and T-5945 (1950). Changes in shoreline, originating with graphic control surveys T-7048 (1950) and T-7107a and b (1950), are shown by solid red lines. Changes in shoreline caused by conflicts with the hydrography on the present survey are shown by dashed red lines and were made in the Washington Office.

The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated.

The survey covers an area of river bottom in the vicinity of the confluence of the Sacramento and San Joaquin Rivers. There are numerous irregularities in the river bottom which are caused by sand ridges, shoals, and deeps. The most prominent submarine feature in the area is the narrow ridge in the San Joaquin River which is delineated



by the 6-ft. curve. The least depth on this ridge is 1 ft. in the vicinity of lat.  $38^{\circ} 03.60'$ , long.  $121^{\circ} 50.45'$ .

#### 4. Junctions with Contemporary Surveys

A butt junction was made at the western limits of the present survey with H-6735 (1941). Depths in the junctional area are in adequate agreement. In Middle Slough and New York Slough adequate junctions were effected with H-7798 (1950). On the east the present survey is in adequate agreement with depths charted from H-6753 (1942).

#### 5. Comparison with Prior Surveys

- a. H-935 (1867) 1:10,000  
 H-1438 (1878) 1:20,000  
 H-1784 (1886) 1:10,000  
 H-2024 (1890) 1:10,000  
 H-3657 (1914) 1:10,000  
 H-4284 (1923) 1:10,000  
 H-4285 (1923) 1:10,000

These prior surveys have been compared with and superseded by H-6735 (1941-42) and H-6753 (1942). Further consideration of these prior surveys, therefore, is deemed unnecessary in the present review.

- b. H-6735 (1941-42) 1:10,000  
 H-6753 (1942) 1:10,000

The present survey falls entirely within the limits of the prior surveys. A comparison between the prior and present surveys reveals differences in depths of as much as 12 ft. in the Sacramento River west of long.  $121^{\circ} 54.0'$ , and east of long.  $121^{\circ} 51.5'$ . Elsewhere only minor differences of 1-2ft. are noted. These changes in the bottom are attributed to the action of the current on the bottom. Several examples of these differences in depths are as follows:

<u>Prior Survey</u> <u>Depth - ft.</u>	<u>Prior</u> <u>Survey</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Pres. Survey</u> <u>Depth - ft.</u>
17	H-6735	$38^{\circ} 02.87'$	$121^{\circ} 55.03'$	27-29
2	H-6735	$38^{\circ} 02.55'$	$121^{\circ} 53.83'$	11-12
19	H-6753	$38^{\circ} 03.92'$	$121^{\circ} 51.47'$	27-31

Soundings from H-6753 have been carried forward to the present survey in the unsurveyed canals on the east side of Kimball Island, on the east and north sides of Winter Island, and in Sacramento River east of Montezuma Island where irregularities in the bottom are not adequately shown by the present development. With these addi-

tions, the present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 5576 (New chart drawing)  
Chart 5527 (Latest print date 7/21/52)

A. Hydrography

The charted hydrography originates principally with the present survey after preliminary review, with H-6753 (1935), and with the U. S. Corps of Engineers' surveys of 1950 (Bps. 47383 and 47384) and 1952 (Bps. 48985 and 48986).

A comparison between the present and charted depths shows no conflicts.

B. Dredged Channels

Present survey depths in the dredged channels south of Winter Island and southeast of Kimball Island are in harmony with the charted controlling depths of 30 ft.

C. Aids to Navigation

Aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended. The buoys charted as (FL R)"20", Bell in lat.  $38^{\circ} 02.67'$ , long.  $121^{\circ} 53.50'$ , and as N-22 in lat.  $38^{\circ} 03.53'$ , long.  $121^{\circ} 51.93'$ , are designated (FL W)"10", Bell and N-12 respectively on the present survey. The designations of these buoys were changed subsequent to the present survey in accordance with H.O. N. to M. 46, 1950. No new dangers were revealed which might require marking.

7. Condition of Survey

- a. The sounding records and Descriptive Report are complete and comprehensive.
- b. The smooth plotting was accurately done.
- c. The depths on numerous peaks and deeps falling at uneven sounding intervals were not scanned from the fathograms by the field party. These were subsequently added by the smooth plotter in the Processing Office.

8. Compliance with Project Instructions

This survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a very good basic survey and no additional field work is recommended. Attention, however, is directed to the 2 wrecks in lat.  $38^{\circ} 01.13'$ , long.  $121^{\circ} 48.98'$ , originating with T-5945 (1950). Although the boat sheet showed pile symbols at this position, no mention of the piles or wrecks was made in the sounding volumes of the present survey.

Examined and approved:

  
H. R. Edmonston

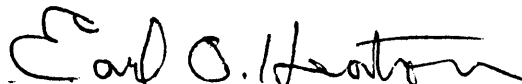
Chief, Nautical Chart Branch

  
H. Arnold Karo

Chief, Division of Charts

  
G. R. Fish

Chief, Section of Hydrography

  
Earl O. Heaton

Chief, Division of Coastal Surveys

