H06002

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
R.S.Patton, Director

State: California

DESCRIPTIVE REPORT

~~Topographic~~ Hydrographic } Sheet No. A'C'

LOCALITY

San Joaquin River Delta

Vicinity of Mildred Island

1932-33

CHIEF OF PARTY

Lieut. L. P. Raynor

6002

Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

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.

Field No. A' C'

REGISTER NO.

State California

General locality San Joaquin River Delta

Locality Vicinity of Mildred Island

Scale 1:10,000 Date of survey January 1932 July 1933, 19

Vessel

Chief of Party

Surveyed by U. S. Engineers

Protracted by

Soundings penciled by

Soundings in ~~fathoms~~ feet

Plane of reference

Subdivision of wire dragged areas by

Inked by

Verified by

Instructions dated 9/2/33, 19

Remarks: The reduction to scale of 1:10,000 of U. S. Engineers work in vicinity of Mildred Island was done by personnel as below:

Projection by---S. S. Whitehead	Reduction by-----S. S. Whitehead
Checked by-------L. P. Raynor	Checked by-------K. DeBlois
Signals plotted-S. S. Whitehead	Soundings inked--T. M. Means
Signals checked-K. DeBlois	Soundings check--K. DeBlois

DESCRIPTIVE REPORT

of

HYDROGRAPHIC SHEET A' C'

AUTHORITY, LIMITS, DATES:

The authority for this work is contained in paragraph 5, SUPPLEMENTAL INSTRUCTIONS PROJECT 98HT, 9-2-33. The work covers the U. S. Engineers soundings in the vicinity of Mildred Island, and was accomplished in 1932 according to blue prints from which the soundings were transferred.

GENERAL NOTES:

Inquiries at the Stockton office of the U. S. Engineers did not disclose the fact that hydrography had recently been done by them in the vicinity of Mildred Island until our work had been accomplished. The blue prints from which the reduction was made was received some time in January of this year.

METHODS, CONTROL:

In order to tie the blueprint to our surveys, three point (theodolite) fix determinations of four of their traverse stations were made. Their positions follow:

USED	122	00	37° 59'	(790) 1059	121° 30'	(481) 983
USED	227	74.5	37° 59'	(1329) 520	121° 31'	(375) 1089
USED	16	69.73	37° 58'	(1233) 617	121° 30'	(438) 1027
USED	287	10	37° 58'	(1278) 572	121° 31'	(266) 1179

Using these as a basis for reduction, the sounding lines

were transferred to aluminum plate on which a projection had been made to the scale of 1:10000. Reduction was made by proportional dividers.

COMPARISONS WITH OUR WORK:

For the most part, the soundings of the U. S. Engineers checked very well with what had been done by this party. This applies to their lines immediately adjacent to Mildred Island and based apparently on their Mildred Island traverses. A report on the discrepancies is contained in Descriptive Reports for Hydrographic Sheets A (T5015) and C (T4689).

It would appear that the soundings included in the red pencil circles were not obtained from this Mildred Island traverse but transferred from some other work of which we have no blueprint. Many of the soundings plot on the shore line as obtained on T4689. As this threw the shore line on 4689 in some doubt, well controlled planetable work was done in the vicinity of apparent discrepancies. A report on this work is contained in Descriptive Report of Revision of Portion of T4689, which will soon be submitted.

The planetable work checks the photo-compilation and indicates that the U. S. Engineers work is in error in this locality.

PARTY:

The personnel responsible for the transfer were:

Projection by---S. S. Whitehead	Reduction by---S. S. Whitehead
Checked by------L. P. Raynor	Checked by-----K. DeBlois
Signals plotted-S. S. Whitehead	Soundings inked--T. M. Means
Signals checked-K. DeBlois	Soundings check--K. DeBlois

L P Raynor, Chief of Party C&GS.

LAC

July 2, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 6002

Locality **El Dorado Pump to Middle River, San Joaquin Delta, Calif**

Chief of Party: **L. P. Raynor in 1933-34**
Plane of reference is **mean lower low water reading**
2.7 ft. on tide staff at **Black Slough Landing**
7.9 ft. below B. M. 1

3.0 ft. on tide staff at Holt, Whiskey Slough
16.4 ft. below B.M. 1

Height of mean higher high water above plane of reference is approximately 3.8 ft.

Condition of records satisfactory except as noted below:

H. A. Marmer

Acting Chief, Division of Tides and Currents

List of signals - sheet 4689

Signal	How Located	Remarks
MM11	S.W. Pt. of Tule Is.	From M31 sheet 5015
ME11	6m. off shore in range with Mandeville Steel Pole, 1931 & M31	From E33 sheet 5015
ME10	On ditch line 2m offshore	
MW10	On ditch line	From MRW1 sheet 4685
MM10	In range with MM12 and N. Bacon wood pole	From MRM14 sheet 4688
MM12	S.W. corner tule island	From boat sheet
MM13	Planetable	See Topo. Report
LW20	"	" " "
LM18	"	" " "
LM17	"	" " "
LM16	"	" " "
LM15	"	" " "
LM14	On ditch Line	
LM13	" " "	
LM12	In tule point	From boat sheet
LM11	E. tip of tule island	" " "
LM10	South point of tule Is.	" " "
LE17	On ditch line	
LE16	In range with Black Slough Landing Steel and south gable of barn.	
LE15	On ditch line 5m. inshore	
LE14	On ditch line	
LE13	N. Pole Comp 14 53°18'	Fix is on levee road. Signal is 3m. off shore in range with S. Pole & Comp 14 Sum angle 74°42'
	S. Pole Comp 14A 21-22	
	W. Wood Pole S. of Christensens Landing	

No mention made in field notes but this checks with boat sheet location.

Sheet 4699

Signal	How Located		Remarks
	North Empire, Pt & 56-20'		Fix is on levee bank
LE12	North Pole Comp 21A 119°-38'		Signal is on shore. line is range with fix and N. Wood Pole Comp 21A & 16m. from fix.
	S. Gable shed near LE11		
LE11	On ditch line	2m off shore	
LE10	" " "	3 " "	gone
LE9	" " "	4 " "	
LE8	" " "		
LE7	" " "	3 m off shore	
LE6A	" " "		
LE6	" " "	4m off shore	
LE5	" " "		
LE4	" " "		
LE3	" " "		
LE2	" " "		
LE1	" " "		
LW18	Planetable		See Topo. Report
LW16	On ditch line	5 m off shore	
LW14	" " "	5 " "	
LW13	" " "		
LW11	" " "	4m off shore	
LW10	" " "	5 " "	
LW9	" " "	5 " "	
LW8	¼ of canal		
LW6	on ditch line		
LW4	" "	2m off shore	
LW3	" "	1 " "	
LW19	W. tip of Tule Island		From boat sheet
LW18A	E " "	" "	" " "
LW18	On ditch line		

Signal	How Located	Remarks
LM7	S. tip of tule island	From boat sheet
LM5	W. " " " "	" " "
LM4	S " " " "	" " "
LM2	N " " " "	" " "
LM1	N " " " "	" " "
EM4	S.W. tip of tule Is.	From boat sheet
EM5	S. " " "	" " "
EM2	Flagpole on tule island 1m inshore from HW	" " "
EM3	E. tip of tule Is.	From boat sheet
EN14	On ditch line	
EN13	" " " 3 m. off shore	Gone
EN12	On range between N. & S. wood poles - camp 14	
EN11	On ditch line	
LM1A	" " "	
ES16	On ditch line 2m. off shore	
ES15	" " " 3m. " "	
ES14A	" " "	
ES14	On range between N. & S. wood poles - camp 14 6m. off shore	
ES13A	On ditch line 4m. off shore	
ES13	" " "	

Signal	How located	Remarks
EN 1A	On point of Tule Island ES 13 N. Pole Camp 14 34°-12'	From boat sheet
EN 10	ES 12 S. Pole 140-36' Camp 21A	
EN 9	On ditch line 3m. off shore	
EN 8	On canal line	
EN 7	In line between ES9 and S.W. corner of large square barn behind levee shed.	
EN 6	In line between N. & S. poles of camp 21A	
EN 5	On ditch line	
EN 4	" " "	
EN 3	" " "	S.E. corner of shed on levee
EN 2	" " "	
EN 1	In line of EN 1 & W. wood pole S. of Christensen's landing	
ES 12	On ditch line	
ES 11	" " " 4m. off shore	
ES 10	On canal line 4 " " "	
ES 9	On ditch line 2 " " "	
ES 8	In line between N. & S. poles at camp 21A 4m. off shore.	
ES 7	Red Tank at Ferry 92°-47' Tank - camp 21A 23°-14' N. Pole - camp 21A	No sum angle. Signal is tall pile. W. side of old Ferry Ramp.
ES 6	W. Gable of long shed on levee camp 21B Left 19°-18' N. Pole camp 21A Right 143°-43' S. Pole camp 21A	Plots on levee. Signal is gone. Assume on H.W. Opposite fix.

Sinclair 4689

Signal	How Located	Remarks
E.5	On ditch line - 5m offshore	
ES4	" " " 3 " "	
ES3	" " " 6 " "	
ES2	224m. E. of ES3 - on H.W.	
ES1	On ditch line	
EM1	W. Pt. of Tule Is.	From boat sheet
TW1	On ditch line	
TW2	" " "	
TW3	" " "	
TW4	" " "	
TW5	On siphon line	
TW6	3 pile dolphin 3.7m. offshore	4.3m. S. of ℄ road from west.
TW7	220.8m. N. of ℄ road from west.	
TW8A	E. wood pole south of Christensen's Landing	Signal is 3m. N. of fix along shore.
TE8	35°-19' 73°-26'	Signal is 4m offshore
TW10		
TW9	On 3 pipe siphon line	

Signal	How located	Remarks
TW10	On ditch line	
TW11	In line with TM3 and S. gable of shed on levee	
TW1V	On ditch line	
TW13	On siphon line 3m. off shore	
TW14	On ditch line 1½ m. " "	
TW15	" " "	
TW16	" " "	
TW17	On tule point	From boat sheet
TE1	On ditch line	
TE2	" " "	
TE3	" " "	
TE4	" " " 5m. off shore	
TE5	" " " 5m. " "	
TE6	center of red tank house	
TE7	Single white pile on N. edge of ramp. 2m. off shore	
TE8	On ditch line 3m. off shore	
TE9	" " "	
TE10	" " " 4m. off shore	
TE11	" " " 2 " " "	
TE1V	" " " 3 " " "	Gone
TE1VA	" " " 2 " " "	
TE13	On siphon line 3 " " "	

Signal	How Located	Remarks
TE14	158.5m. S.W. from TE15 along Levee road. TE14 & TE15 are at right angles to road. TE14 is 3m. off shore	
TE15	On ditch line - 4m. off shore	
TE16	In line with TM5 and steel pole - Block Slough to Landing 1½ m. off shore	
TE17	On ditch line 2m. off shore	
TE18	" " "	
TE19	" " " 4m. off shore	
TM1	South tip of Tule Island	From boat sheet
TM2	W. wood pole S. of Christensons Landing 09°-04' E. wood pole S. of Chrystensons Landing 39°-24' N.W. Sacramento Tank Tower	Sum angle 48°-27'
TM3	N. Tip of Tule Island	From boat sheet
TM4	W " " " "	" " "
TM5	S " " " "	
TM9	On ditch line	
~~R1~~	" " " 2m. off shore	

1
44
ET 44
93
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Signal	How Located	Remarks
WW1	In line between E & W. wood poles S. of Christensons Landing. 3m. off shore.	
WW2	On ditch line	
WW3	142.5 meters N.W. from WW4	
WW4	At floodgate	
WW5	At siphon. 59ft. W. of extension of ditch on road	
WW6	On ditch line	
WW7	" " 3m. off shore	
WW8	At siphon	
WW9	" "	
WW10	On ditch line	
WW11	" " "	
WW12	" " "	
WW13	At siphon on ditch line	
WW14	On ditch line	
WW15	" " "	
WW16	At siphons	From boat sheet
WE1	In line between E & W wood poles S. of Christensons Landing. 197ft. (60m) W. of E. pole.	
WE2	E. wood pole S. of Christensons Landing 84°-20' WW1 09°-55 W. wood pole S. of Christensons Landing	3pt. fix 13 on levee. Signal is 61.5' west on line with N. pole comp #A. 1½ m. off shore Sum. angle 94°-15'
WE3	TM1 30°-41' WW2 145°-16' WW3	Signal is 3m. off shore
WE4	On ditch line	
WE5	" "	

Signal	How located	Remarks
WE6	East gable of pump house	
WE7	South gable of house at French Landing	
WE8	At siphon on ditch line	
WE9	Flag on fence on ditch line	
WE10	At flood gate on ditch line	
WE11	" " " " " "	
WE12	At siphon on ditch line	
WE13	On ditch line 3m off shore	
WE14	" " "	
WE15	On shore 6ft. S. of ditch line	
WE16	At flood gate on ditch line	
WE17	On ditch line	
WE18	" " "	
WE19	" " "	
WE20	Tank	
WM1	At prominent point on S.W. side of tule island.	From boat shed
WM2	W. Tip of tule island	" " "
WM2A	S.E " " " "	" " "
WM3	W " " " "	" " "
WM4	N " " " "	" " "
WM5	N " " " "	" " "
WM6	S " " " "	" " "
WM7	W " " " "	" " "
WM8	N " " " "	" " "

Sheet 4689

Signal	How located	Remarks
WM9	N.E. tip of tule island	From boat sheet
WM10	On ditch line	
SJ1	On line between N. & S. poles at Black Slough Landing 2m. off shore	
SJ2	On ditch line 5m. off shore	
SJ2A	On tule point	From boat sheet
SJ3	S. Gable of house	From boat sheet
SJ4	On ditch line 2m. off shore	
SJ5	" " " 2 " " "	
SJ6	" " " 2 " " "	
SJ7	" " " 2 " " "	Called R1 on boat sheet
FM1	W. tip of tule island	From boat sheet.
FN1	On ditch line 2m. off shore	
FN2	" " " 5 " " "	
FN3	" " " 3 " " "	
FM3	W. tip of tule island	From boat sheet
MRM1	Planetable	See Topo. Report
MRM1A	"	
MRM10	"	
MRM11	"	

Sheet 4689 Plan table locations

37°-59' = 1466.2
38°-00' = 1463.9

Signal	Scaled from boat sheet DM	DP	Adjusted DM	DP	Lat.	Long.	
TM 8	(483) 1363	(1380) 78	(484) 1366	(1386) 78	37°-59'	121°-27'	
TM 10	(265) 1580	(1398) 60	(266) 1584	(1404) 60	37°-59'	121°-27'	
TM 11	(102) 1742	(59) 1399	(102) 1748	(59) 1405	37°-59'	121°-26'	
TM 12	(-) 26	(32) 1426	(-) 26	(32) 1432	38°-00'	121°-26'	

Note:- Smooth sheet scales 1850 m. between 37°-59' & 38°-00' at 121°-27' (OK except 5m. off 121°-28' DP's are small)
" " " 1855 " " 37-59 & 38-00 " 121-28.
" " " 1464 " " 121-27 & 121-28 at 37°-59'
" " " 1464 " " 121-27 & 121-28 " 38°-00'
" " " 1464 " " 121-26 & 121-27 " 38-00

U.S.E.D. Control Points (Mildred Island)

Station		Lat.	D.M	Longit.	D.P. (From Aluminum Projection)	
USED	287+10	37°-58'	(1278.0) 572.0	121°-31'	(269.7) 1194.9	"
"	16+69.73	37-58	(1233.1) 616.9	121-30	(437.9) 1026.7	"
"	B.M. #122	37-59	(790.5) 1059.5	121-30	(481.2) 983.0	"
"	227+74.5	37-59	(329.5) 520.5	121-31	375.1 1089.2	"

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6002 (1933-34)

El Dorado Pump to Middle River, San Joaquin River Delta, Calif.
Instructions dated September 2, 1933 (L. P. Raynor)
Surveyed - Sept. 15, 1933 to Apr. 6, 1934.

Lead Line and Pole Soundings - 3 Point Fixes, Compass Bearings and Range Finder Distances.

Chief of Party - L. P. Raynor.
Surveyed by - Frank Davis.
Protracted and soundings penciled by - K. L. DeBlois.
Verified and inked by - P. H. Scherr.

1. Condition of Records.

The records conform to the requirements of the Hydrographic Manual with the exception that there was no evidence on the sheet that the plotting of the topographic and hydrographic signals had been checked by the field party. This has been accomplished in the office.

2. Compliance with Instructions for the Project.

The plan and extent of development conform to the Instructions for the Project.

3. Sounding Line Crossings.

Depths at crossings are in good agreement.

4. Depth Curves.

Within the area of the present survey the usual depth curves may be satisfactorily drawn.

5. Junctions with Contemporary Surveys.

a. The survey joins H. 6001 (1934), H. 6003 (1934) and H. 6004 (1934); the junctions are adequate and the depth agreements good.

b. U. S. Army Engineers B. P. 26307 and 26308 show the improved channel of the San Joaquin River as of 1933. The junctions between the two surveys is adequate except that the entrance to the old channel north of Acker Island should have been resurveyed. This is the old bed of the San Joaquin River and the only soundings available appear to be the U. S. Eng. survey in 1908 (B.P. 17297). The new cut in this vicinity has undoubtedly changed conditions in the old bed.

c. Latham Slough and the west end of Empire Cut, although surveyed by the U. S. Engineers (B.P.S. 27183 and 27184) were also surveyed by our party because the engineers prints were not available at the time this survey was made (see D.R. Page 1). The agreement in general is very good. Some apparent discrepancies exist which may be due either to abrupt slope along some of the banks or to the difference in shorelines on the two surveys or to subsequent dredging.

Inasmuch as our survey is later than the Engineer's, it should be given preference in charting wherever conflicts exist, but the two should supplement each other in other places, particularly where the engineer's soundings fall in blank spaces on our survey.

6. Comparison with Prior Surveys.

There are no previous surveys by this Bureau in the area covered by this sheet.

7. Comparison with Chart No. 5527 (Preliminary).

Within the area of the survey the chart is based on Engineers blueprints of the San Joaquin River. No other details are shown on the chart.

8. Field Drafting.

The plotting of positions and the penciling of soundings were satisfactory. Some of the corrections shown on the accompanying topographic sheet (copy of T. 4689) had not been made on the smooth sheet. This was done in the office.

9. Additional Field Work Recommended.

a. Immediately necessary.

None.

b. For Future Consideration.

The old channel of the San Joaquin River north of Acker Island should be resurveyed. (See Par. 5b, above).

10. Clearance - Overhead Power Lines.

a. The overhead cable clearance at Empire Landing, lat. 37°58'.3, long. 121°31'.1, was changed from 125 feet as previously shown on topographic sheet (U. S. Engineer permit clearance Chart Letter 738 (1933) to 110 feet (determined by range finder) as given in the Descriptive Report, Page 8.

b. No elevation is given in the Chart Letter 738 (1933) for the overhead cable at Lower Jones Tract to east side of Whiskey Slough. The field party furnished no information on this.

11. Superseding Old Surveys.

There are no prior surveys by this Bureau in the area covered by this sheet.

12. Note to Compiler.

See Par. 5c, this review, regarding use of U. S. Engineer's survey

in Latham Slough and Empire Cut.

13. Reviewed by - R. J. Christman, Oct. 1934.

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Gilbert
Chief, Division of Charts.

F. S. Borden
Chief, Section of Field Work.

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

applied to drawing of Chart 5527
Nov. 30, 1934 — J.T.W.

6002

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } *Sheet No.* D (T-4689)

6002

State California

LOCALITY

San Joaquin River Delta

El Dorado Pump to Middle River

*193*3-1934

CHIEF OF PARTY

Lieut. L. P. Raynor

U.S. GOVERNMENT PRINTING OFFICE: 1934

6002

Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 6002

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.

Field No. D (T4689)

REGISTER NO. 6002

State California

General locality San Joaquin River Delta

Locality El Dorado Pump to Middle River

Scale 1:10000 Date of survey Sept. 15/33-Apr.6, 1934

Vessel Helen F (Leased)

Chief of Party L. P. Raynor

Surveyed by Frank Davis

Protracted by K. L. DeBlois K. L. DeBlois

Soundings penciled by K. L. DeBlois K. L. DeBlois

Soundings in ~~fathoms~~ feet

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by PAUL H. SCHERR

Verified by PAUL H. SCHERR

Instructions dated 22LE 1990 3/17/33; 26RS 1990 11/9/33; 22AHH 8/12/33; 22AHH 1990 11/16/33; 19 22RS 1990 9/2/33; 22MEN 1990 12/2/33.

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

LIST OF DATA FOR USE WITH HYDROGRAPHIC SHEET D (T-4689)

1 Descriptive Report containing:

11 sheets of Descriptive Report
1 sheet of Landmarks for Charts, form 567
1 sheet of Hydrographic Title Sheet, form 537
6 sheets of Signal Locations.

1 Smooth Sheet on aluminum
2 Boat sheets, photo-lithograph of T4689 (white)
1 sheet on tracing paper showing junction with adjacent sheets.
1 sheet with geographic names; photo-lithograph of T4689 (white)
2 sheets on tracing paper with additional soundings.
4 Volumnes of Soundings, form 275.

Tidal data, Black Slough and Whiskey Slough,(2 books Tides, form 277) submitted herewith. Other tidal data sent in.

DESCRIPTIVE REPORT

of

HYDROGRAPHIC SHEET D (T-4689)

AUTHORITY, LIMITS, DATES:

The INSTRUCTIONS for this work are contained in the following letters:

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

This sheet covers Turner Cut, Whiskey Slough, Empire Cut, Fourteen Mile Slough, and Latham Slough in the San Joaquin Delta. The work in Whiskey Slough was done in September 1933. The remainder of the work was done in November and December 1933 and January and April 1934.

Although the U. S. Engineers have sounded Latham Slough, we included this in our hydrographic work as repeated inquiry to the War Department failed to bring the necessary prints. In fact it took four months to get them. Portions of Middle River appearing on the lower left-hand corner of this sheet are included on sheet 5015. They are not duplicated on this sheet.

There is a portion at the head of Whiskey Slough on the east bank where sounding was impossible on account of arks. These arks are more or less permanent fixtures.

GENERAL NOTES:

As has been previously noted in the report on the photo-field inspection, much of the cultivated land was originally tule marsh. The levees are built up from dredged material taken from the adjacent waterway, and due to the settlement of the levees, dredging has to be done periodically to keep the top at height and grade. As the material is needed for levee work the dredger pays more attention to the needs of the levee than to the depth of the channel for navigation purposes. This leaves an uneven bottom though a general attempt is made not to dredge so deep that the levee will tend to fall back into the waterway. The bottom is soft mud, sand, and clay. Except for the upper part of Latham Slough, there is no great variation in the depths.

SURVEY PARTY:

This work was done by Frank Davis, Surveyor, usual duties in charge of the launch; J. LeConte, Observer, Left angle and Bearings with

Pelorus; Chas. M. Anstead, Right angle and Reading Range Finder; George C. White, Plotting; C. Kester, Recorder; M. D. Dibble and Myron Bear alternating as Leadsman and Coxswain.

Kester had had considerable experience in the Coast and Geodetic Survey in his position as Recorder, although with no experience as Recorder with Range Finder and Bearings. Anstead had had much previous experience with the sextant and proved to be efficient and reliable in the use of the range finder. The rest of the party were entirely new to our work and as this sheet was one of the first on which work was done several discrepancies occurred as will be noted later, some of which may be attributed to lack of experience. The Chief of Party supervised the field work of the hydrographic party until it seemed certain that the men in charge had a full understanding of the work.

SURVEY METHODS:

A. The signals for control of the work were located by several methods:

1. Several of the signals in the upper end of Turner Cut were located by using the photo-lithographic print of T4689 as a planetable sheet and rodding in the signals from some well defined object on the sheet. These points are shown in red on the print which was later used as the boat sheet, thus: (P). These points are listed on the attached sheet "Signal Locations" and are marked "Planetable Positions."

2. Several of the signals in the upper end of Latham Slough were located by using the aluminum planetable sheets and rodding in the signals from some well defined object on the sheet. These points are listed on the attached sheet "Signal Locations" and are marked "Planetable Locations."

This survey filed as sheet No. 23A and letter no. 7, in Air Photo Section

3. Spotting directly on the smooth sheet from the topographic detail, ie., tule points, intersection of ditch lines with the high water lines, gables of buildings, tanks, siphons, and other prominent landmarks. These are listed on the attached sheet "Signal Locations."

4. Sextant three point fixes. These are shown in blue circles on the boat sheet and smooth sheet and are listed on the attached sheets "Signal Locations."

B. The boat positions were obtained either with the usual sextant three point fix or by the use of range finder No. 7277 and bearings by compass No. 24874 using pelorus No. 24874. The deviations of the compass were determined by using range No. 3, San Joaquin River and three point fix to Andrus Island Steel Tower, taking bearings on every 15° rhumb. The following data for compass deviations was used on this sheet:

Date	Range	Magnetic Bearing
Sept. 12, 1933	No. 3, San Joaquin River	312°
Sept. 22, 1933	" " " "	"
Dec. 6, 1933	" " " "	"
Dec. 14, 1933	" " " "	"
Mar. 12, 1933	3 pt. fix to Andrus Id. Steel Tower	212°

The compass deviation and total error are shown on page 1 of each sounding volumne.

Range finder No. 7277 was calibrated and used as follows:

Date	Days Used	Observer
Sept. 11, 1933	A & B	C. Anstead
Nov. 18, 1933	C to H incl.	"
Jan. 2, 1934	J & K	"
Jan. 25, 1934	L	"
April 3, 1934	M & N	"

The field calibration data book has already been sent in.

The distances when the range finder reads above 50 are not considered as reliable as readings that are less. When a signal was used that was further away than a 50 reading, and at the same time there is a distance measured to the nearest shore line with a reading less than 50, the latter will govern in case of a discrepancy.

C. The depths were obtained by the standard method, using either the leadline or sounding pole. The leadline carried a 9# lead weight and had a 3 ft. toggle. The sounding pole was a 4 fathom pole and was used in depths less than $3\frac{1}{2}$ fathoms. Soundings on A to F days inclusive were read to the nearest $\frac{1}{2}$ ft., and soundings on the remainder of the days were read to the nearest tenth of a foot. On the smooth sheets the soundings were plotted to the nearest $\frac{1}{2}$ ft., up to 10 ft. and to the nearest foot for depths over 10 ft., as authorized by the instructions of Dec. 2, 1933.

D. The smooth sheet is aluminum coated with tanned gum arabic. It is free from the distortion that is troublesome with the Whatman sheets. The positions and signals are easily marked by a needle indentation. The surface takes ink readily but the pencil work is unsatisfactory. Erasures are easy but it removes the surface coat leaving a shiny mark and making pencil or ink work over the erasure unsatisfactory. a small amount of erasure with a moist cloth does not seriously damage the surface finish. RJ6

ANCHORAGES AND LANDINGS:

There are very few wharves on these sloughs. The boats and barges using the channels make fast alongside the levee at nearly any place desired. Usually landings are made at the various sheds shown on the levee. There is a County ferry operating between McDonald Island and Roberts Island across Turner Cut, near Bates Landing. It operates by means of a wire rope stretched from shore to shore, and is slack when ferry is made fast to either landing.

SHOALS, WRECKS, AND SNAGS:

1. There is a 3 ft. shoal between ES14 and EM3 at the west end of Empire Cut. The U. S. Engineers line near this point shows a 4.2 ft. depth. Although there is a small tule island 50 meters west of this shoal, there are several 11 ft. soundings in between, so the shoal is not a continuation of the island.

2. There is a 9 ft. shoal near TE15 in Turner Cut.

3. There is a 9½ ft. shoal between EN10 and ES12 in Empire Cut. This probably extends south from the small tule island in Latham Slough.

4. There is a 7½ ft. shoal in the middle of Latham Slough between LW8 and LE7. This probably extends north from the tule island opposite LW8 to the small tule island between LE7 & LW9.

5. There is a 9 ft. shoal in the center of Middle River west of MM12.

6. There is a 9½ ft. shoal in the middle of Empire Cut south of EN5.

7. There is a 6 ft. shoal in the middle of Empire Cut between EN5 and ES7.

8. There are weeds between LE6 and LM2 in Latham Slough.

There is a sunken barge in Latham Slough north of LM14 shown on the smooth sheet and located by photoplot. There is a sunken raft in Whiskey Slough opposite WE20. It is indicated in pencil on the smooth sheet and location described in Sounding Vol.1, p.28.

There is a snag in Whiskey Slough north of WE19. It is indicated in pencil on the smooth sheet and location described in Sounding Vol. 1, p. 28. It should be avoided by all small craft to which considerable damage to propellor and hull could be done. It is not known, however, how long it will remain in place.

CHANNELS:

Practically all of the waterways are used for navigation either by pleasure craft or by commercial vessels. The pleasure craft draw from 1½ ft. to 4 ft., while tugs and barges draw from 4 ft. to 9 ft., the greater depth being for some of the deeper tugs. The channel depths vary and are indicated by the depth curves as drawn on the boat sheet. The U. S. Engineers projects in most sloughs call for a depth of 9 ft. at MLLW.

DISCREPANCIES:

1. Depth between 7 and 8A near WW13 is shown as 5½ ft. This sounding is not shown because it falls in a well developed area with depths from 9½ ft., to 15 ft. This is the first sounding line of

the job and it is thought the leadsman made an error of one fathom in reading the lead. 5½ ft sounding omitted. RLJ

2. Depth between 21 and 22B near WW7 is 20 ft.
Depth between 39 and 40A near WW7 is 16 ft.
The soundings are about 4 meters apart so that this variation is quite possible. The 16 ft. depth is plotted.

3. Depth at position 60E near LM10 is 33 ft.
Depth at position 89E near LM10 is 22 ft.
These positions are only 1 meter apart. However, these lines are heading in the opposite direction which mean the sounding chair on the 89-90E line is 3 to 4 meters nearer shore than on the 60-61E line. This, together with the fact that the bottom drops off rapidly, accounts for this apparent discrepancy. The 22 ft. depth is shown. 33' shown

4. Depth between 53 and 54E near LE5 is 20 ft.
Depth at position 32G near LE5 is 11 ft. 20' indicated
The shore line 53-54E may have been moved further from shore due to the bend. Both depths are shown.

5. Depth between 36 and 37G near LM5 is 11 ft.
Depth between 111 and 112E near LM5 is 24 ft.
The 11 ft. depth is shown as it is evident that the location of the 36 and 37G line is better controlled than the 111 and 112E line. The E line should probably be further to the west.

6. Depth at position 37G near LE7 is 10 ft.
Depth between 55 and 56E near LE7 is 15 ft.
On the G line the angles were taken at the stern to make the position and the sounding was taken forward so that the 10 ft. depth is evidently further inshore. The 15 ft. depth is shown.

7. Depth between 23 and 24L near EN10 is 16 ft.
Depth between 14 and 15D near EN10 is 10 ft.
The 16 ft. depth is several meters outside of the 10 ft. depth. The 10 ft. depth is shown.

8. Depth between 22 and 23D near ES14 is 13 ft.
Depth between 33 and 34E near ES14 is 9 and 7 ft.
These lines were run in opposite directions which means that the sounding chair is 3 to 4 meters nearer shore on the E line than the 13 ft. on the D line. The 9 ft. and 7 ft. depths are shown.

9. Depth between 18 and 19D near ES13 is 17 ft.
Depth between 44 and 45E near ES13 is 13 ft.
These lines were run in opposite directions which means that the sounding chair is 3 to 4 meters nearer shore on the E line than the 17 ft. depth on the D line. The 13 ft. depth is shown.

10. Depth at position ~~11~~6 near EN5 is 16 ft.
Depth between 17 and 18G near EN5 is 10 ft.
The 16 ft. is probably inshore from the G line. The 10 ft. depth is plotted.

11. Depth between 6 and 7F near TE8 is 19 ft.
Depth between 2 and 3G near TE8 is 13 ft.
The G line is poorly controlled and should probably be further to the west where it crosses the F line.

The following discrepancies were found by comparing the U. S. Engineers soundings in Latham Slough and the west end of Empire Cut with our work. In several cases where their soundings fall in a blank space on the smooth sheet the figure is shown and marked with an asterisk (*). Sheet dated January 13, 1932, file 7, division 14, sheet 980; and July 1933, file 7, division 6, sheet 994 were used. The projection on aluminum of Mildred Island and copy on tracing cloth have been sent in under separate cover. H.O. 27183-4

1. Between MM10 and MM11 the Engineers line shows 19.9 ft. very close to our shore line, which has a 38 ft. depth. Our line, however, shows consistent deep water in this area and our work was also done later than theirs. On Vol. 2 p. 11 there is a "recently dredged" note which probably accounts for our greater depths.

2. Near LE14 and LM13 the shore lines of the Engineers sheet and our smooth sheet do not match. [illegible] A comparison was made by shifting the tracing so that the Engineers soundings fall between our shore lines. They show a 5.5 ft. shoal where our line shows 16 ft. Although our planetable party did not check the shorelines at this particular point, considerable work was done in this area all of which showed the shorelines on our sheet to be correct. It is assumed the shorelines at LE14 and LM13 are correct also. Our lines show consistently greater depths in the area of the Engineers 5.5 ft. sounding. Probably the 5.5 ft. depth is part of the tule island to the west.

3. Between LM9 and LW14 the Engineers line shows a depth of 14.7 ft. where our line shows 28 ft. This is in a sharp bend in the slough and it is possible that our line might have cut the curve so as to be further from shore. Our line did not have a range finder shore shot at this particular point. shift in location would account for the difference in depth, a small

4. Between LW13 and LW11 there are two Engineers lines that do not match up with our shore lines. Our planetable party checked up the shore lines in this vicinity and found our sheet to be correct.

5. The Engineers line south of LW11 shows a depth of 14.1 ft. near our sounding of 25 ft. Our work shows consistently deeper soundings in this area so it would appear that the 14.1 ft. depth is closer to the east shore.

6. The following Engineers lines do not match with our shore lines. Our planetable party checked up the shore lines in this vicinity and found our sheet to be correct. A comparison was made by shifting the tracing so that the Engineers soundings fall between our shore lines.

Line at LE6A	Line at LM5	Line at LM2
" " LE5	" N of LW6	" " LW6
" " LE4	" at LW4	" " LE3
" " LE2	" " LE1	

7. Near ES14 in Empire Cut there is an apparent discrepancy where the Engineers depth of 2.1 ft. falls on our 14 ft. sounding. This is, however, another case of the shore lines failing to match.

The U. S. Engineers sheets dated July 1933, file 7, division 6, sheet 994; and October 1928, file 7, division 14, sheet 932 of Turner Cut and Empire Cut were compared visually with our work. The comparison was favorable considering the age of the Engineers soundings. BP 27181-4 BP 27176-7

A comparison was made with the overlapping soundings at all junctions with adjacent sheets. No apparent discrepancies were found. The junctions are shown on tracing paper and are a part of this report. There is no junction shown north of signal SJ7. The U. S. Engineers handle this area and repeated inquiry has failed to bring the necessary prints. See Review of H 6003.

TIDAL DATA:

The tide reducers were obtained from the records of the portable automatic tide gage (#T137) placed on the floodgate box for controlling flow of water from Whiskey Slough to Trapper Slough at Holt and at Black Slough Landing on the San Joaquin River. The areas and times for which each gage are to be used are indicated on the boat sheet by appropriate notes. The tide tabulations, records, comparisons, marigrams, data sheets, and level records have been sent you with the exception of what is attached to this report.

The plane of reference for reduction of soundings is MLLW and is 3.0 on the tide staff at Whiskey Slough. The highest tide observed at this gage was 7.5 on the staff and occurred on January 29, 1934; the lowest tide was 2.5 on the staff and occurred on January 19, 1934. MLLW on the staff at Black Slough Landing is 2.7 on the staff. The highest tide observed at this gage was 8.0 on the staff and occurred on January 1, 1934; the lowest tide was 1.8 on the staff and occurred on December 9, 1933.

TABLES FOR TIDE REDUCERS:

Whiskey Slough Gage
MLLW is 3.0 on staff.

2.2 to 2.7	add	½ ft.
2.7 to 3.2	zero	
3.2 to 3.7	subtract	½ ft.
3.7 to 4.2	"	1 ft.
4.2 to 4.7	"	1½ ft.
4.7 to 5.2	"	2 ft.
5.2 to 5.7	"	2½ ft.
5.7 to 6.2	"	3 ft.
6.2 to 6.7	"	3½ ft.
6.7 to 7.2	"	4 ft.
7.2 to 7.7	"	4½ ft.
7.7 to 8.2	"	5 ft.

Black Slough Landing Gage.
MLLW is 2.7 on staff.

1.9 to 2.4	add	½ ft.
2.4 to 2.9	zero	
2.9 to 3.4	subtract	½ ft.
3.4 to 3.9	"	1 ft.
3.9 to 4.4	"	1½ ft.
4.4 to 4.9	"	2 ft.
4.9 to 5.4	"	2½ ft.
5.4 to 5.9	"	3 ft.
5.9 to 6.4	"	3½ ft.
6.4 to 6.9	"	4 ft.
6.9 to 7.4	"	4½ ft.
7.4 to 7.9	"	5 ft.
7.9 to 8.4	"	5½ ft.
8.4 to 8.9	"	6 ft.
8.9 to 9.4	"	6½ ft.

CLEARANCES, OVERHEAD POWER LINES:

1. Overhead cable, Mildred Island to Lower Jones Tract at Empire Landing. The clearance above MHW at determined by the range finder on November 29, 1933 is 110 ft. See Sounding Vol. 2, p.2.

2. Overhead cable, McDonald Island to Lower Jones Tract. No elevation given, This was sent you, November 16, 1933, as data from U. S. Engineers.

3. Overhead cable, Lower Jones Tract to east side of Whiskey Slough, south of Christensen's Landing. This was sent you, at sametime as noted in previous paragraph. Elevation 105 feet.

CHANGES AND ADDITIONS TO T4689:

The following changes or additions resulting from the field inspection during the progress of the hydrographic work are noted on the smooth sheet.

1. Additional tule island located by three point fixes in Turner Cut. See page 2, Vol. 2 of the Sounding Records. It is shown in red on the smooth sheet. — Changed to black PHS.

2. Two additional tule islands in Empire Cut located by three point fixes. See page 2, Vol. 3 of the Sounding Records. They are shown in red on the smooth sheet. - changed to black. PHS

3. Additional siphon Lower Jones Tract and Whiskey Slough is shown in red on the smooth sheet. See page 32, Vol. 1 of the Sounding Records. Changed to black PHS

4. Small thin tule patch in Whiskey Slough near WE7 located by sounding line. It is shown in red on the smooth sheet. See page 69, Vol. 3 of the Sounding Records. Changed to black.

5. Additional tule island at MRM11 in Latham Slough. This was located by planetable survey and shown in red on the smooth sheet. Changed to black

6. The meridian numbers 122° 30' and 122° 31' at the top of the sheet have been changed in black to the correct figures, 121° 30' and 121° 31'.

7. "E Point Fix" at Christensen's Landing should read "Three Point Fix."

8. Remove arrows in channels near Power Poles, South of Christensen's Landing and County Ferry.

The following changes and additions are noted on the boat sheets but not on the smooth sheet.

1. Camp 21½ on McDonald Island adjacent to Latham Slough is added.

2. Building shown on Roberts Island at the upper end of Turner Cut is actually a series of corn cribs and are incorrectly located. Delete.

GEOGRAPHICAL NAMES:

On a separate T4689 sheet, the camp numbers or names which should be added to this sheet are shown in red. The names were obtained locally and were checked by Captain Lent, who is one of the relief pilots for the Port of Stockton, and has had many years of tugboat work on the Sacramento-San Joaquin Delta.

LANDMARKS:

Copy of "List of Landmarks" on form 567 is attached to this report, and another copy has been mailed under separate cover. The objects with (3) are useful in local navigation only, ie., for help in determining the camp near which one is passing or the exact location in the adjacent slough. The objects with (2)(3) are, for the most part, power line poles, wooden or steel, and can be seen for a considerable distance. They should prove of much help in the general navigation of the Delta. It is suggested that both classes of landmarks be placed on the new chart of the Delta if space permits. At any rate all of those in class (2)(3) should appear on the chart.

Submitted by K. L. DeBlois

Approved
L. S. Rogers
Lieut C & G Survey
Chief of Party

D (T4689)

STATISTICS

	Date	Day	Vol.	Miles	Soundings	Positions
1933	Sept. 15	A	1	8.0	708	71
	" 18	B	1	5.5	513	60
	Nov. 27	C	1	4.2	335	45
	" 28	D	1	3.8	311	35
	" 28	D	2	6.8	463	54
	" 29	E	2	11.0	907	120
	Dec. 1	F	2	9.6	572	67
	" 1	F	3	6.2	588	61
	" 5	G	3	4.6	323	43
	" 7	H	3	2.3	200	20
1934	Jan. 11	J	3	3.7	263	20
	" 12	K	3	1.7	96	11
	" 26	L	3	.25	45	6
	Apr. 5	M	3	2.7	220	25
	" 6	N	4	1.7	161	46
	TOTALS			72.05	5705	684

Form 567
Rev. Jan., 1933

DIVISION OF CHARTS, FILE NO._____

D (T-4689)

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Stockton, California

May, 1934

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

L. P. Raynor
Chief of Party.

DESCRIPTION	POSITION						METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE			LONGITUDE		DATUM		
	° ′	D. M. METERS		° ′	D. P. METERS			
North of 2 Wood Power Poles—Empire Landing (2) (3)	37 58	(1207) 648		121 31	(-) 148	N.A. 1927	Photo-plot	New San Joaquin
South of 2 Wood Power Poles—Empire Landing (2) (3)	37 58	(1578) 477		121 31	(-) 145	"	"	"
North of 2 Wood Power Poles—Camp 21A (2) (3)	37 58	(1225) 626		121 29	(609) 856	"	"	"
South of 2 Wood Power Poles—Camp 21A (2) (3)	37 58	(1388) 462		121 29	(661) 804	"	"	"
West of 2 Wood Power Poles S. of Christensen Ldg. (2-3)	37 58	(1441) 409		121 28	(682) 785	"	Triangu-lation	"
East of 2 Wood Power Poles S. of Christensen Ldg. (2-3)	37 58	(1558) 312		121 28	(660) 806	"	"	"
Center of Red Tank House (3)	37 58	(470) 1380		121 28	(956) 509	"	Photo-plot	"

A list of objects carefully selected because of their value as landmarks as determined from seaward together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive indentification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaffs and like objects are not sufficiently permanent to chart.

U. S. GOVERNMENT PRINTING OFFICE: 1933

The sounding records were inspected by the Chief of Party when opportunity arose, and the dates of inspection are noted in the sounding records.

Supervision of the hydrographic and signal building parties was made until it seemed certain that methods of doing the work were understood.

Plotting of the smooth sheet was inspected for gross errors and all discrepancies in depths due to line crossings were inspected and notes for correction made.

Depth curves were drawn in ink on the boat sheet. They were not drawn in pencil on the smooth sheet because of the confusion that would result. They can better be drawn after the soundings have been inked.

L. P. Raynor
H. & G. Engineer
Chief of Party

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. H6002.

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

Number of positions on sheet	684
Number of positions checked	6
Number of positions revised	1
Number of soundings recorded	5705
Number of soundings revised	10
Number of signals erroneously plotted or transferred	-

Date: September 28, 1934

Cartographer: Paul H. Scherr

Verification of protracting) by P.H. Scherr
Verification & inking of rocks and shoals) Time: 10 hrs.

Verification og inking by P.H. Scherr Time: 37 hrs.

Review by Time:

Section of Field Records
Verification Report

Report on H. 6002.
Chief of Party - L. P. Raynor.
Protracted by - K. L. De Blois.
Surveyed - Sept. 15, 1933 - April 6, 1934.
Surveyed by - Frank Davis.
Verified and inked by - P. H. Scherr.

1. The records conform to the requirements of the General Instructions. ✓

2. The usual depth curves were drawn. Curves were not drawn in waters where only a single line of soundings was run. ✓

3. The field plotting was completed to the extent prescribed in the General Instructions with no omissions. ✓

4. The office draftsman made a few corrections to the topography as it had been modified by later plane table surveys. The corrections were taken from T. 4689 West (#23A). None were made using T. 4688 E (#30A). ✓

5. A junction with H. 6001 on the West was made. The tight work prevents showing a complete junction. The tracing of the junction accompanies the sheet for comparison. ~~The other adjoining sheets have not been verified as yet.~~ Junction with H6003 on North made. as also H6004. ✓

6. Remarks.

a. There is a note on Page 43, Volume 1, concerning "Tullie" of which "tullie" no trace was found on boat sheet, smooth, or topographic sheet. It was not inked.

b. Accompanying the sheet is the Engineers survey of the same waters with a tracing also of this work. A few soundings were taken from this work and penciled on the smooth sheet. These were not inked. ✓

c. The 12 foot depth curve off station T W 17 was drawn to show a continuous channel which may be a matter of opinion here. Latitude 38°59'.6, longitude 121°27'.1. In many cases it was found impossible to assume the channel continuing through, even though it is believed that it might do so, basing this on cross lines and comparison with the depths found by the engineers survey. The cross lines through Empire Cut, latitude 37°58'.3, longitude 121°30'. indicate that there might be a deeper channel throughout the Cut. ✓

d. The 5½' sounding spoken of in the first paragraph of the list of discrepancies was inked and the curves drawn so as to indicate the channel carrying through. This sounding has been omitted on strength of field party's recommendation. ✓

e. Several small tule islands were strengthened to keep from being lost in the surrounding soundings. ✓

7. The character of the work was very good. Very little checking of protracting was necessary as most of the positions were located by the range finder. ✓

Submitted by - P. H. Scherr,
Sept. 29, 1934. P H Scherr

See next page.

Addition to Verifier's Report.

As no mention had been made anywhere in the records, descriptive report or on the smooth sheet that the hydrographic and topographic signals on this survey had been checked, these signals were given a visual comparison check. It was found that the locations of Signals TW 7 between the boat sheet and smooth sheet (lat. 38°58'.9, long. 121°28.4); LE 12 (lat. 38°59'.4, long. 121°30'.5); and WE 20 (lat. 37°-36'.1, long. 121°25'.8) differed from those on the boat sheet due to those on the boat sheet being in error.

Paragraph 4, Section A, under "Survey Methods" of the report speaks about blue circles on the boat sheet for sextant three point fixes. This is not true in all cases on the boat sheet.

P. H. Scherr.

GEOGRAPHIC NAMES

Survey No. H-6002
T-4689

Date. Dec. 6, 1934
HMS

Chart No.

Names approved Dec. 6, 1934. H Bacon,

Diagram No.

*, Approved by the Division of Geographic Names, Department of Interior.

¢, 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
	Roberts Island	Maps agree			
	Mildred Island	"			
N/	McDonald Tract Henning Tract	Believe this area should be Henning Tract and McDonald Tract east and north of Whiskey Slough. Maps consulted agreeon this point. HMS			
	Lower Jones Tract	Maps agree			
	Upper Jones Tract	"			
**	Middle River	"			
	Empire Cut	"			
	Whiskey Slough	"			
	Turner Cut	"			
	San Joaquin River	"			
	Midway Slough	"			
**	Fourteenmile Slough	"			
	Latham Slough	"			
	Acker Island	"			
	Walters Island	"			
	Morrison Island	"			
**	Vulcan Island	according to DR for T-4689 Shipyard Island is preferred name. HMS			
	Walters Point	Maps agree			
	Turner Landing	"			
	Wellington Landing				
	Blackslough Landing not Black Slough Landing as shown on sheet.				
	Hart's Landing should be Harts Landing				
	See page 2 for same sheet.				

(M 100)

GEOGRAPHIC NAMES

Survey No. H-6002
T-4689

Date. Dec. 6, 1934.

Chart No.

HMS

Diagram No.

Names approved Dec. 6, 1934 H. Bacon

*, Approved by the Division of Geographic Names, Department of Interior.

¢, 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
	Ryan's Landing should be Ryans Landing Maps agree				
	* Ricco Landing				
	Hilman's Landing Should be Hilmans Landing	"			
	Bates Landing	"			
	Christenson Landing	See DR for T-4689. "			
	Harris Landing	"			
	Empire Landing	"			
	Midway Slough	"			
	*Asparagus Landing				
	*** Black Slough	not shown on survey sheet but appears on many maps at Blackslough Landing			
	French Landing				
	* Names not found on any of the maps consulted.				
	** NAMES on corresponding survey sheet T-4689, which should be added to H-6002. HMS				
	For sources consulted see DR for T-4689. HMS				
	*** Show Black Slough				