

6004

6004

Form 504
Ed. June, 1923

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON
Director

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

JUL 17 1934

State: CALIFORNIA

DESCRIPTIVE REPORT

~~TOPOGRAPHIC~~
Hydrographic

Sheet No. T-5012
6004

LOCALITY

SAN JOAQUIN DELTA

BISHOP CUT TO HARTE

1934

CHIEF OF PARTY

L. P. RAYNOR

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 6004

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. _____

⁶⁰⁰⁴
REGISTER NO. T 5012 6004

State California

General locality San Joaquin Delta

Locality Bishop Cut to Harte

Scale 1:10,000 Date of survey Jan. 10 to Jan. 26 1934

Vessel Launch, Helen F.

Chief of Party L. P. Raynor

Surveyed by A. J. Barradas

Protracted by J. Le Conte

Soundings penciled by J. Le Conte

Soundings in ~~backcross~~ feet

Plane of reference MLLW

Subdivision of wire dragged areas by _____

Inked by A. H. YEOMANS

Verified by A. H. Y.

Instructions dated 22 LE 1990, 3/17/33; 22 AHH 1990 8/12/33
SUPPLEMENTAL INSTRUCTIONS PROJECT, 19____
98 HT, 9/2/33; 26 RS 1990, 11/9/33

~~Remarks~~ 22 AHH 1990, 11/16/33; 22 MEN 1990, 12/2/33.

DESCRIPTIVE REPORT

of

HYDROGRAPHIC SHEET (T-5012)

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. 26 RS 1990 Nov. 9, 1933
5. 22AHH 1990 Nov. 16, 1933
6. 22MEN 1990 Dec. 2, 1933

This sheet covers Disappointment Slough from Longitude $121^{\circ} 26'$ to the Hartland Tract, Fourteen Mile Slough, the south end of Bishop Cut and the cut connecting Fourteen Mile and Disappointment Sloughs. The work was all done in January 1934. The small portion of Disappointment Slough near the West edge of the sheet without soundings, is plotted on sheet 4688.

GENERAL NOTES

As has been previously noted in the report on the photo field inspection, much of the cultivated land was originally tule marsh. It has since been reclaimed by building levees along the major waterways and draining the islands thus formed. These levees are built up periodically to keep the top at height and grade. There are no great variations in depth on this sheet.

SURVEY PARTY

This work was done by A. J. Barradas, usual duties in charge of the launch and bearings with the pelorus; Chas. M. Anstead right angle and range finder distances; George C. White plotting; C. Kester, recorder; John Logan and Myron Bear alternating as leadsman and coxswain.

SURVEY METHODS

- A. The signals for the control of the hydrography were located by the following methods:
 - (1) Plotting directly on the smooth sheet from topographic detail i.e. tule points, intersection of ditchlines with the highwater line, gables of buildings, tanks, syphons, and other prominent landmarks. This is done from inspection and from notes on the boat sheet.
 - (2) Sextant three point fixes. These are shown in blue circles on the boat sheet and smooth sheet. The angles are found on page 2,

Volume 1. There was no plane table work on this sheet. Signal DML5 was found by measurement to be 29 meters south of the tule point shown on the original print. This point has been destroyed since the photographs were taken.

B. The boat positions were obtained either with the usual sextant three point fixes 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 taking bearings every 15° rhumb. The magnetic bearing of this range is 312°. The compass deviation and total error are shown on page 1 of each sounding volume. Range finder No. 7277 was calibrated and used from the data observed on Dec. 14, 1933, C. M. Anstead from A to D days, and on E day from data observed on Jan. 25, 1934, C.M. Anstead. The distances are not considered reliable when range finder reads above 50. When a signal was used which was further away than 50, and at the same time, or nearly so, a distance was taken to the nearest shoreline with a reading less than 50, the latter governed in case of a discrepancy.

C. The depths were obtained by the standard method, using either the leadline or the sounding pole. The leadline carried a 9lb. lead and had a 3 foot toggle. The sounding pole was a 4 fathom pole used in depths of less than 3½ fathom. The soundings were read to the nearest tenth of a foot. On the smooth sheet the soundings were plotted to the nearest ½ foot up to ten feet and to the nearest foot thereafter as authorized by instructions Dec. 2, 1933.

In office, depth plotted in half feet only in critical places which is within the liberty allowed by the instructions.
D. The smooth sheet was aluminum coated with tanned gum arabic. It is free from the distortion that is troublesome with the Whatman sheets. The positions of signals are easily marked by needle indentations.

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 point desired. Usually the landings are made at the various sheds and beet loaders shown on the levee.

SHOALS, WRECKS, SNAGS.

As the depths on this sheet are all comparatively shoal there are no sharply defined shoal areas surrounded by deep water. There is a 5 foot shoal area in the vicinity of signal DML2 which would prevent any craft drawing more than that from getting through to Bishops Cut or Disappointment Slough. *6 1/2 ft. shoal 5 ft. from S.S.*

Weeds and snags are found in the narrow channels which wind through the tule berms and along the east side of the Shima Tract which renders the channel dangerous to navigation.

CHANNELS

Most of the channels on this sheet can be used for navigation by pleasure craft or commercial vessels. Many heavy barges of sugar beets are taken from King Island, Bishop Tract and Rindge Tract by way of Disappointment Slough. The route using Fourteen Mile Slough is somewhat shallower and could

within the limits of this sheet 6 1/2 feet may be carried from the beginning of Fourteen Mile Slough on the south to the western limit of the southern channel of Disappointment Slough. H-6015

(T-5012)

not be used at low tide by vessels drawing more than 4 or 5 ft. The narrow channels at the extreme ends of Disappointment and Fourteen Mile Sloughs are navigable only for pleasure craft drawing 2 or 3 ft.

DISCREPANCIES

SIGNALS:

DM 15 as noted. Tule point changed. ✓
DS 28A does not match with sheet 4690 as the detail does not join correctly with this sheet. ✓

POSITIONS:

Slight discrepancies in positions are noted in the sounding volumes. Practically all of them are due to apparent variation in the range finder readings. ✓

DEPTHS.

1. The depth between position 22 and 23C (near DN 7) is 9 feet. The depth between positions 20 and 21C is (12) feet. The line 20-21C is not as well controlled. It was swung slightly so that the 9 ft. sounding could be correctly plotted. ✓
2. The depth on position 33C is 5 feet. ^{latter} (DN 11)
The depth between positions 47 and 48B is 8 feet. (DN 11)
There is a comparatively sharp drop off into Disappointment Slough at this point. The distance between these soundings is sufficient to warrant this discrepancy. ✓
3. The depth on position 40D is (10) feet. (DN 17) ✓
The depth on position 48A is 7 1/2 feet.
The 7 1/2 ft. sounding was plotted in preference to the 10 ft. as the latter was nearer the center of the channel. ✓
4. The sounding before position 43D is 9 ft. (DN 17) ✓
The sounding after position 41D is 5 1/2 ft.
The 9 ft. sounding is nearer the center of the channel which shows several depths of 9 ft. and there is sufficient space between them to account for the discrepancy. ✓
5. The line 1 to 2E shows two 16 ft. depths. (DN 4) ✓
The line 24 to 25A at the same point shows 12 and 14 ft.
The "E" day line was rerun and the boat was moving very slowly. ✓
The 16 ft. hole is small and probably was missed on "A" day. ✓
6. The same is true of the sounding before position 7E and the sounding after 24A. "A" and "C" days check but do not check "E" day. Soundings from 1 to 2E not plotted as they show deeper water. ✓

TIDAL DATA

The tide reducers were obtained from the records of a portable automatic tide gage, (#T-137) placed on piling at the junction of Bishop Cut and Disappointment Slough. These reducers could be * not shown definitely on Boat sheet nor smooth sheet. Since bottom checks off rapidly, it is assumed to be close to the values. It was not noted on the sheet. ✓

(T-5012)

checked with the gages previously installed at Black Slough Landing and at Light 12. Areas and times used are indicated by appropriate notes on the boat sheet.

The MLLW on the staff at Bishop Cut is 1.60. The highest tides observed at this gage were on January 1, 13, and 14, 1934, with a height of 6.4. The lowest tide observed was on January 17, 1934, with a height of 1.3.

The tabulations, records, comparisons, marigrams, data sheets, and level records have been sent to you.

BISHOP CUT TIDE GAGE

MLLW is 1.6 on staff

Staff reads:

0.3 to 0.8	Add 1	ft.
0.8 to 1.3	"	$\frac{1}{2}$ ft.
1.3 to 1.8	Zero	
1.8 to 2.3	Subtract	$\frac{1}{2}$ ft.
2.3 to 2.8	"	1 ft.
2.8 to 3.3	"	$1\frac{1}{2}$ ft.
3.3 to 3.8	"	2 ft.
3.8 to 4.3	"	$2\frac{1}{2}$ ft.
4.3 to 4.8	"	3 ft.
4.8 to 5.3	"	$3\frac{1}{2}$ ft.
5.3 to 5.8	"	4 ft.
5.8 to 6.3	"	$4\frac{1}{2}$ ft.
6.3 to 6.8	"	5 ft.

In record book enter plus sign if tide is below MLLW, but minus sign is not needed if tide is above MLLW.

CLEARANCES, BRIDGES, OVERHEAD POWER LINES

Overhead power line, King Island to Bishop Tract; clearance is _____?

This information received. See letter attached. 1/13/35 XLMW.

Clearance of Bishop Cut Drawbridge when closed, West and East span 6.8 feet at Mean High Water. See page 2, Vol. 1. Hor. clearance 75 ft. E. and W. spans, p. 216 U.S.E.D. List of Bridges. CHANGES AND ADDITIONS TO T-5012

As noted under signal location DM 15 has been moved 20 meters south because the tule point has been cut off since the photographs were taken. The Bishop Cut Drawbridge is so situated that its south edge is exactly in line with the wood power poles whose position has been established by third order triangulation. On the original prints, the bridge is shown with its north edge in line with the poles. The bridge has been moved on the smooth sheet to conform with the conditions in the field.

(T-5012)

The two sheds on the levee at Camp 7, Shima Tract have been torn down and replaced by a single new one as shown on the smooth sheet.

GEOGRAPHICAL NAMES

On a separate T-5012 print the camp numbers and names which should be added to this sheet are shown in red. The names were obtained locally and checked by Captain Lent, one of the relief pilots for the Port of Stockton, who has had many years experience in the Sacramento, San Joaquin Delta.

Not required but that sheet contains names & delimiting fee

LANDMARKS

A 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 navigation only, ie., for help in determining the camp near which one is passing, etc. The objects with (2)(3) are tall wood power poles which can be seen for a considerable distance and are a great help in the general navigation of this region.

Landmarks received by cartographic office section

STATISTICS SHEET T-5012

DATE	MILES	SOUNDINGS	DAY	POSITIONS	VOL.
Jan. 10	10.55	752	A	58	1
" 11	15.50	880	B	94	1
" 15	7.00	520	C	51	1 & 2
" 16	7.00	497	D	55	2
" 26	.25	30	E	10	2
TOTALS	40.30	2679		268	

Joseph LeConte
Joseph LeConte
Observer.

*Stockton Calif
7/12/34
Approved
L.P. Raymond
Chief of Party*

Field Records Section (Charts)

HYDROGRAPHIC SHEET No. 6004

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

Number of positions on sheet	.268.
Number of positions checked	...0..
Number of positions revised	...0...
Number of soundings recorded	.2679
Number of soundings revised	...4..
Number of signals erroneously plotted or transferred0

Date:.....Oct. 4 1934.....

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

Verification of protracting
Verification & inking of rocks & shoals } by A.H.Y.

Time: 2 1/2 hrs.

Verification of inking by

Time:

Review by

H. W. Murray

Time: 5 3/4 "

September 18, 1934

Division of Hydrography and Topography:

✓ Division of Charts:

Tide Reducers are approved in
2 volumes of sounding records for

HYDROGRAPHIC SHEET 6004

Locality Bishop Cut to Harte, San Joaquin Delta, Calif.

Chief of Party: L. P. Raynor in 1934

Plane of reference is mean lower low water reading

1.6 ft. on tide staff at Bishop Cut

4.9 ft. below B. M. 1

Height of mean higher high water above plane of reference

is 3.8 feet.

Condition of records satisfactory except as noted below:

Chief, Division of Tides and Currents

Report on H. 6004

Chief of Party - L. P. Raynor.
Protracted by - J. Le Conte.
Verified and inked by - A. Yeomans.
Surveyed in January 10 - 26, 1934.
Surveyed by - A. J. Barradas.
Soundings plotted by - J. Le Conte.

1. The records conform to the requirements of the General Instructions. ✓
2. The usual depth curves were drawn except along the shore and in channels where only one line of soundings were taken and in other congested areas where the curves would only make the sheet more confusing. ✓
3. The field plotting was completed to the extent prescribed in the General Instructions. ✓
4. The office draftsman did no drafting over that had been done by the field party. ✓
5. The junctions with adjacent sheets H. 6015 and H. 6012 were made and found to be satisfactory other adjacent sheets H. 6003, 6002 have not been completed. ✓

Submitted by - *A. Yeomans*
A. Yeomans.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6004 (1934)

San Joaquin Delta, California - Bishop Cut to Harte.
Instructions dated March 17 and Sept. 2, 1933 (L. P. Raynor)
Surveyed January 10-26, 1934.

Hand Lead and Pole Soundings -- Control (Three Point Control on Shore Signals
(Bearings by Compass using Pelorus
(Range Finder Distances

Chief of Party - L. P. Raynor.
Surveyed by - A. J. Barradas.
Protracted by - J. LeConte.
Soundings penciled by - J. LeConte.
Verified and inked by - A. H. Yoemans.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

- a. No list of signals used was attached to the records (Par. 139).
- b. There is no evidence that the signals shown on the sheet were checked since no initials pertaining to the checking appeared on the sheet. This was accomplished in the office.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the Project.

3. Sounding Line Crossings.

Only a few cross lines which are in good agreement were run as they are impractical within the narrow limits of the waterways.

4. Depth Curves.

The usual depth curves may be satisfactorily drawn.

5. Junctions with Contemporary Surveys.

The junctions with H-6012 (1934) and H-6015 (1933-4) are satisfactory. The junctions with H-6002 (1933-4) and H-6003 (1933-4) will be considered in the reviews of those sheets.

6. Comparison with Prior Surveys.

No prior surveys exist in the area covered by the present survey.

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.

10. Superseding Previous Surveys.

There are no previous surveys to be superseded.

11. Miscellaneous Matters.

The vertical clearance under the power line at the bridge between King Island and Bishop Tract was inadvertently omitted from the descriptive report (see Page 4, D.A.^R). There is no information in this office regarding this clearance.

*Information received
and applied to sheet.
See letter attached.
1/25/35 X.M.M.*

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

Inspected by - A. L. Shalowitz.

Examined and approved:

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

L. O. Robert
Chief, Division of Charts.

H. Borden
Chief, Section of Field Work.

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

*applied to drawing of chart 5527
Nov. 24, 1934 - J.W.*

GEOGRAPHIC NAMES

Survey No. H-6004

T-5012

Date. Dec. 5, 1934

Chart No. _____

HMS

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.

⊘ *Information requested.*

Status	Name on Survey	Name on Chart	New Names in local use	Names assigned by Field	Location	
	<u>King Island</u>	Sources consulted agree				
	<u>Rindge Tract</u>	"	Note placing name to	indicate all of tract.		
	<u>Shima Tract</u>	"				
	<u>Wright Tract</u>	"				
	<u>Harte</u>	"				
	<u>Fourteemile Slough</u>	"	Note application of name to entire	slough.		
	<u>Disappointment Slough</u>	"	Note application of name to entire	slough.		
	<u>Shima</u>	add to sheet, name appears on all maps.				
	<u>Bishop Cut</u>			Bishop Cut		
	<u>Hartland Tract</u> ⊘ <i>eliminate H.B.</i>	Atlas Tract on all maps where shown. (writing out) <u>Hartland Tract</u>				
	<u>Cohn Tract</u> ⊘ <i>OK H.B.</i> <i>not Bishop</i>	After 1925 all maps consulted use this name, but prior to that date it is Bishop Tract, the name given on the survey sheet. Recommend <u>Cohn</u> ; HMS				
	<u>Twentyonemile Slough</u>	All sources consulted agree on this name. Add.				
	<u>Atlas Point</u> not on	Not on any maps consulted			Atlas Point	
	Name for slough west of Shima Tract between Disappointment and Fourteemile Sloughs? (writing out for information) <i>No letter</i>					
	<i>Capt Adams instructs that Hartland Tract be eliminated and that no further inquiries be made H.B.</i>					
	For list of references consulted see T-4685, Descriptive Report. HMS					

[Handwritten initials]

POST-OFFICE ADDRESS: Box 2512, San Francisco, California

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

*copy made for
Coast Patrol file*

*382 2
25-
KTA 80
82
C.K.G.*

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

January 4, 1935.

20
1935 JAN - 9 - PM 12:22

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

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

Subject: Overhead Cable Crossings, San Joaquin Delta
References: Review of Hydrographic Sheets 6002 and 6004

With regard to the overhead cable referred to, in Par. 10. b. of first reference, it is my recollection that this cable is stretched between triangulation stations, South of Christenson Landing, East and West Wooden Poles. The clearance as given by the U. S. Engineers is 105 feet above H. W., according to the copy of their letter, original of which was sent to you. The line in question is No 29 on the list, and an explanation of its location was given in my supplemental list attached to the letter from the U. S. Engineers.

*the cable referred
to in Review # 6002
is not No. 29 but
the one crossing
Empire Cut
RFB*

I find from one of my sketchbooks, that the clearance under the power line at the bridge between King Island and Bishop ~~Cook~~ Tract was determined on July 21, 1934, with the range finder. It is 122 feet above M. H. W. The lack of this information is mentioned in Par. 11 of the second reference.

*applied to
north sheet
1/15/35 H.W.M.*

It is hoped that the above information may reach you in time to be of use in the compilation of the new charts of the Delta region.

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