

6725

U. S. COAST & GEODETIC SURVEY

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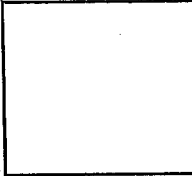
MAR 10 1942

Acc. No. _____

6725

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
L. O. Colbert, Director



State: California

DESCRIPTIVE REPORT

~~Hydrographic~~ } SPECIAL * NAVY
Hydrographic } Sheet No.

LOCALITY

San Francisco Bay

San Rafael Bay

1941

CHIEF OF PARTY

L. D. Graham

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.

Special survey for Navy Department

Field No. _____

REGISTER NO. **H6725**

State California

General locality San Francisco Bay

Locality San Rafael Bay

Scale 1:5,000 Date of survey Dec. 8 to 12, 1941

Vessel launch (Ship GUIDE)

Chief of Party L. D. Graham

Surveyed by M. A. Hecht

Protracted by S. B. Grenell

Soundings penciled by S. B. Grenell

Soundings in ~~metres~~ feet

Plane of reference MLLW

Subdivision of wire dragged areas by _____

Inked by P.H. Andros

Verified by P.H. Andros

Instructions dated Director's letter of Nov. 25, 1941

Remarks: _____

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET - SPECIAL SURVEY

U.S. NAVY MAGNETIC DEGAUSSING RANGE

San Rafael
San Pablo Bay
California

U.S.C. & G.S. Ship GUIDE

1941

INSTRUCTIONS:

Instructions for this survey were contained in Director's letter of November 25, 1941, to the Inspector, U. S. Coast and Geodetic Survey Field Station, San Francisco, California.

SURVEY METHODS:

All of the depths on this survey were obtained by the GUIDE's Motorsailer using the Submarine Signal No. 808 Fathometer.

The sounding lines were controlled by three point fixes, plotted on arcs of equal angle which were computed and constructed on the boat sheet before starting hydrography.

No topography or shoreline was obtained on this survey. The sounding lines were parallel spaced 50 meters apart in a north-south magnetic direction. A number of cross lines perpendicular to the general system were run to check the accuracy of the survey and to develop the proposed site for the location of the instrument for the magnetic Degaussing Range.

CONTROL:

The control consisted of recovered and established triangulation stations. Practically all of the survey is controlled by three point fixes on three triangulation signals, namely: Sister, E. Brothers Light and Red Rock. Stations Pedro and San were used a few times. A separate report is being made on the triangulation executed for this survey.

DISCREPANCIES, COMPARISON WITH PREVIOUS SURVEYS, ETC.:

All crossings on the boat sheet appear to be very good. No shoals or dangers to navigation were found. From a casual inspection of the area surveyed it appears that changes have occurred in the charted depths.

TIDAL DATA:

Soundings were reduced by using tide reducers obtained from staff readings at an old tide station at Pt. Orient. Levels were run connecting this staff with old bench marks at this site. The tide reducers were entered and checked by the field party.

FATHOMETER CORRECTIONS:

Fathometer corrections were made by using the bar checks made at the beginning and end of each day and recorded in the sounding volumes. Curves were drawn and the fathometer corrections were assumed to have changed at a uniform rate throughout the day when the morning and evening checks differed. Fathometer corrections were entered and checked by the personnel of the Ship GUIDE.

LIST OF SIGNALS USED:

Triangulation:

Sister
Pedro
E. Bros. Light House
Red Rock
San

STATISTICS:

Date:	Day Letter:	Mi. of Sdgs:	No. of Sdgs:	Positions:
December 8	a (red)	8.2	203	53
" 9	b (red)	13.6	299	82
" 12	c (red)	3.0	148	51
Area in square statute miles				=

Respectfully submitted:

Maurice A. Hecht
Maurice A. Hecht,
Lieut.(j.g.), C. & G. Survey.

Approved and forwarded:

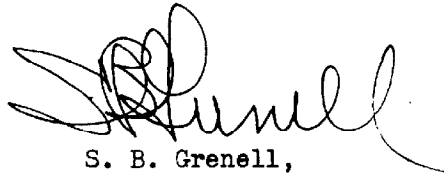
Geo. L. Bean
Geo. L. Bean,
Commanding Ship GUIDE.

PROCESSING OFFICE REPORT:

The field work was executed on a 1:10,000 scale boat sheet. After inspecting the boat sheet, the representative of the Navy Department requested that the scale be enlarged to 1:5,000. The smooth sheet was prepared in the Processing Office on a 1:5,000 scale and the angle arcs were applied in pencil for smooth plotting. The sounding volumes were completely reduced before transfer to the Processing Office.

The sextant fixes for line control were plotted from the computed angle arcs and the soundings plotted in the usual manner. No difficulty was experienced in plotting the sheet and all crossings appear to be satisfactory. The survey is as complete and extensive as the Navy Department required.

At the request of the Navy Department a tracing was made on cloth from the smooth sheet showing all soundings and signals. They requested this tracing rather than the survey sheet as they desired to make blue prints for navigation sheets. All sheets and records are being forwarded to Washington for registry.



S. B. Grenell,
Officer in Charge,
Oakland Processing Office.

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. **H.6725**

Records accompanying survey:

Boat sheets 999.; sounding vols. (1)..; wire drag vols.;
 bomb vols.; graphic recorder rolls (2)..;
 special reports, etc.

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

Number of positions on sheet		.186..
Number of positions checked		.35..
Number of positions revised		..9..
Number of soundings recorded		.1300.
Number of soundings revised (refers to depth only)		..15..
Number of soundings erroneously spaced		..8...
Number of signals erroneously plotted or transferred		..9..
Topographic details	Time	..9..
Junctions	Time	..0..
Verification of soundings from graphic record	Time	..8..

Verification by *P.H. Andros*..... Total time .22 hrs. Date 4/1/43...

Review by *R.H. Caspary*..... Time 9 hrs. Date 4/8/43...

Remarks

Decisions

1		
2		379 224
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4		
5	Location of tide staff	379224
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GEOGRAPHIC NAMES
 Survey No. **H6725**

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
<u>San Francisco Bay</u>											1
<u>San Rafael Bay</u>											2
											3
											4
<u>Point orient</u>											5
											6
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											8
											9
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Names underlined in red approved
 by L. Heck on 6/26/42

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT
~~PHOTOSTATIC~~

} No. H **H6725**
~~XXXX~~

{ received March 10, 1942
 registered March 13, 1942
 verified
 reviewed
 approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
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83			
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90			

RETURN TO

82	R. W. Knox
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RW

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 17, 1942

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
1 volume\$ of sounding records for

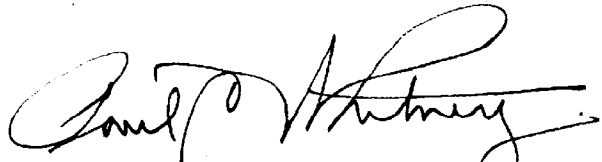
HYDROGRAPHIC SHEET 6725

Locality San Rafael Bay, San Francisco Bay, California

Chief of Party: L. D. Graham in 1941
Plane of reference is mean lower low water reading
2.3 ft. on tide staff at Point Orient
14.1 ft. below B. M. 2

Height of mean high water above plane of reference is 5.2 feet.

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

DIVISION OF CHARTS

SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. 6725
Spec. Navy Survey

California, San Francisco Bay, San Rafael Bay
Surveyed in December 1941; Scale 1:5,000
Instructions - Director's letter November 25, 1941

Soundings:

Depth Recorder 808

Control:

Sextant Fixes on Shore Signals

Chief of Party - L. D. Graham
Surveyed by - M. A. Hecht
Protracted by - S. B. Grenell
Soundings plotted by - S. B. Grenell
Verified and inked by - P. H. Andros
Reviewed by - R. H. Carstens
Inspected by - H. R. Edmonston

1. Shoreline and Signals

The signals originate with triangulation of 1851 to 1941. No shoreline is shown because there are no recent topographic surveys of this area.

2. Sounding Line Crossings

Satisfactory.

3. Depth Curves

Satisfactory.

4. Junctions with Contemporary Surveys

Since there are no contemporary surveys of this area no junctions are shown.

5. Comparison with Prior Surveys

a. H- 466 (1855) 1:10,000
H-2510 (1899-1901) 1:10,000
H-3929 (1916) 1:20,000
H-4275 (1921-1922) 1:20,000

There has been a gradual shoaling accompanied by a progressive offshore movement of the depth

curves since the earlier surveys were accomplished. The differences in depth with the 1855 survey amount to as much as 24 feet in Latitude $37^{\circ}58.7'$; Long. $122^{\circ}26.8'$ where 52 feet falls on 28 feet of the present survey. The 6-ft. curve has moved 600 meters offshore in Lat. $37^{\circ}58'$.

Since the last complete prior survey in 1916 the area has shoaled as much as 14 feet in Lat. $37^{\circ}57.6'$; Long. $122^{\circ}27.2'$ where a sounding of 45 feet falls in present depths of 31 feet. The 6-ft. curve has moved 400 meters offshore in Lat. $37^{\circ}58.2'$.

The present survey adequately delineates the bottom and should supersede the earlier surveys within the common area.

b. H-3968 (1917) W.D., 1:20,000

Depths of the present survey are in harmony with the effective depths of this wire drag survey.

6. Comparison with Chart 5532 (latest print date 1-20-43)

a. Hydrography

The charted hydrography within the limits of the present survey originates with the present survey and is correctly charted.

b. Aids to Navigation

The aids to navigation: East Brothers Island Lighthouse is charted 40 meters south of the present survey position and San Francisco Bay North End Light is charted 80 meters south of the present survey position. The charted buoy and four charted lights not shown on the present survey have been put in place since the present survey was accomplished. See Notice to Mariners 25 (1942) and 12 and 13 (1943).

7. Condition of Survey

Satisfactory.

8. Compliance with Instructions for the Project

This is a special survey for the U. S. Navy and no copy of the instructions is available. Standard

Hydrographic surveying methods have apparently been followed except that no bottom characteristics were obtained.

9. Additional Field Work Recommended


None on this survey.


Because of the change in depth revealed by the present survey it would be desirable at some convenient time to extend modern surveys over a considerable area in this part of the bay.

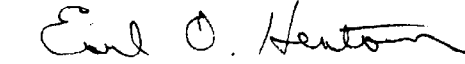
10. Superseded Surveys


- H- 466 (1855)
- H-2510 (1899-1901)
- H-3929 (1916)
- H-4275 (1921-1922)

Examined and approved:


Chief, Surveys Branch


Chief, Division of Charts


Chief, Section of Hydrography


Chief, Division of
Coastal Surveys

